The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

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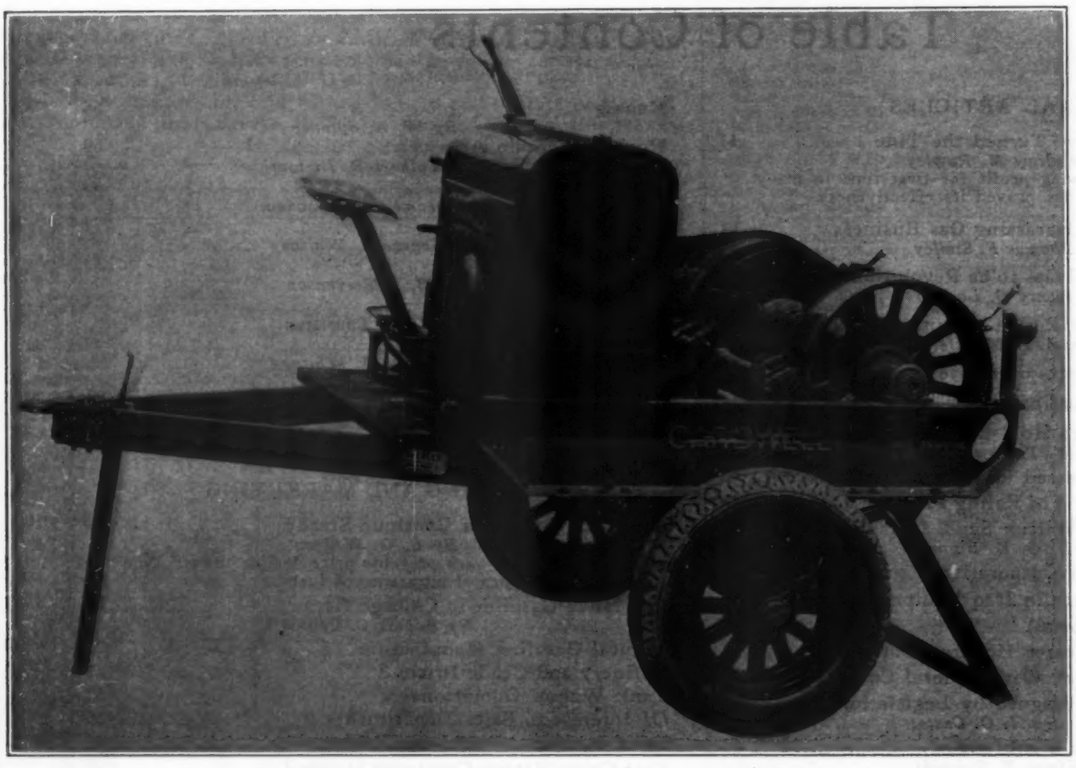
Prorated or Not Wells Must Be Serviced

Why not do it economically?



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With Ford Motor

POWER—Ford Model AA-6000 Motor.
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SHAFTS—Drum shaft, 3¼" Chrome Nickel Steel; countershaft, 4" cold rolled steel.
BEARINGS—Drum: Hyatt heavy duty roller bearings; countershaft and drum sprocket hub—extra heavy, long-life phosphor bronze.
DRUM—Free rolling; cast steel, heat dissipating ends with oil excluding flange cast integral; reinforced steel tube barrel, electric welded; removable divider.

Drum ends	26"x6"
Length inside of Flanges	38"
Barrel Diameter	10¾"

BRAKES—Double, equalized, self-energizing Gatke molded block lined on 6"x26" heat dissipating flanges. 960 square inches effective brake area.
TRANSMISSION—Ford heavy duty truck type; four speeds forward, one reverse.
IGNITION—Optional, battery or Hot-Shot.
STARTER—Ford, electric.
SPROCKETS—Cut steel. Main driven sprockets, demountable.
CHAIN—Diamond high efficiency, long-life chain.
OILING—Alemite system.
WEIGHT—On skids, 2,800 pounds; with trailer, 3,800 pounds. Export packing on skids, weight 3,800, cubic volume, 215 cubic feet.
CONTROLS—All in easy access of operator.

SPEED AND POUNDS PULL, 1400 R.P.M. (Computed on Basis of 72% Efficiency of Winch)

Speeds	*Line Feet Per Minute*	*Pounds Pull On Bare Drum*
1st	69	12,250
2nd	144	5,920
3rd	264	3,230
4th	445	1,910
Reverse	57	15,000

CABLE CAPACITIES

1/2" Cable	5,200 feet
9/16" Cable	4,300 feet
5/8" Cable	3,500 feet
3/4" Cable	2,500 feet

Price, less trailer, $1200.00, f.o.b. Factory

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POWER—Waukesha heavy duty, 4-cylinder engine, Model VKU.
DRUM CLUTCH—Four-jaw, dental type, Cast Steel.
SHAFTS—Drumshaft, 3¼" Chrome Nickel Steel. Countershaft, 4" Cold Rolled Steel.
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DRUM—Free Rolling; Cast Steel, heat dissipating drum flanges electrically welded to reinforced steel tube barrel; removable divider.

Drum ends	26"x6"
Length inside of Flanges	38"
Barrel Diameter	10¾"

BRAKES—Double, equalized, self-energizing Gatke molded block lines on 6"x26" heat dissipating flanges, 960 square inches effective brake area.
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CHAIN—Diamond high efficiency, long life chain.
OILING—Alemite system.
WEIGHT—On skids, 3,450 pounds; with trailer, 4,600 pounds; export packing on skids, weight 4,450 pounds; cubic volume, 326 cubic feet.

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Speeds	*Line Feet Per Minute*	*Pounds Pull On Bare Drum*
1st	54	16,500
2nd	112	7,940
3rd	208	4,270
4th	392	2,260
Reverse	47.4	18,800

CABLE CAPACITIES

1/2" Cable	5,200 feet
9/16" Cable	4,300 feet
5/8" Cable	3,500 feet
3/4" Cable	2,500 feet

Price, less trailer, $1650.00, f.o.b. Factory

Trailer, for either of above models, $300 f.o.b. Factory

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Higher Oil Prices Have Turned the Tide

Highest production in 1931, week ending Aug. 8, average daily output 2,551,807 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Companies Now Showing Profit for First Time in Many Months. New Policy Has Proved Its Effectiveness

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1931 was for week ending Sept. 5, with average output of 1,736,007 bbls.

Proof that the petroleum industry definitely has turned the corner and that higher prices constitute the remedy necessary to prevent a recurrence of the enormous losses sustained last year is had in statements of executives of leading oil companies that these companies began to show a profit during April of this year. One prominent concern which had been in the red for fourteen months, began in April to use black ink in its ledgers. Other equally active companies are enjoying the same experience. The change is due entirely to increases in prices for crude oil, gasoline and other refined products.

Continued firmness in the gasoline market, settlement of problems worrying operators in East Texas, and indications that some agreement will be reached in California which will make more effective conservation efforts and strengthen the crude oil price structure, are factors which indicate the present upward trend in prices will continue. With the oil companies actually beginning to make money, there is a greater determination to conduct operations only on a profitable basis instead of the policy so often followed last year of making sales regardless of price received or of the effect such sales had on the general price structure.

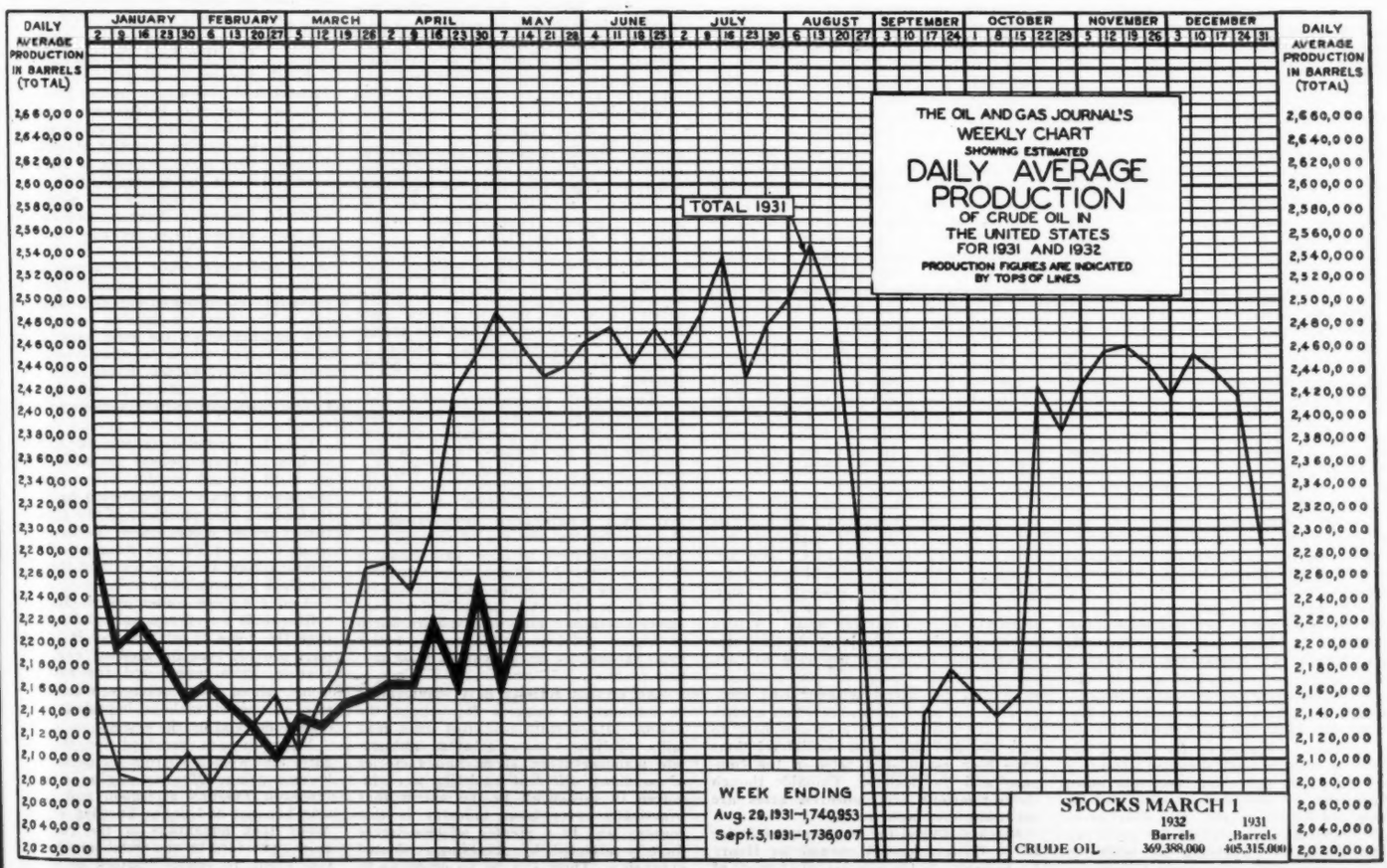
The industry should not be content with the present price level. It has concrete evidence of the fallacy of the old idea of getting gallonage regardless of price. The small increase in prices of crude oil, with resultant better quotations for gasoline and other products, swung the business from enormous losses to some profit. It knows now it is far better to make a small profit on some business rather than take a loss on a big volume of trade. It admits low prices resulted in losses of millions of dollars last year. Balance sheets now show the increases posted in April turned the tide in the right direction. Why be content at the present level? Every effort should be made to maintain the balance between supply and demand for both crude and refined oils, in fact keep supply as far below demand as possible. And better prices should be obtained to counterbalance to some extent at least the losses of last year.

CRUDE OIL PRODUCTION IN THE UNITED STATES

Estimated daily average production for the week ending May 7, and a comparison with previous week and one year ago follows:

	May 7	April 30	May 9, 1931
Oklahoma—			
Oklahoma City	134,985	88,335	222,145
Seminole-St. Louis	113,720	104,750	147,660
Remainder of State	207,510	205,630	237,396
Total Oklahoma	456,215	398,715	607,201
East Texas—			
Lathrop	127,852	124,717	52,250
Kilgore	105,889	103,755	120,885
Joiner	108,745	106,422	95,745
Total East Texas	342,486	334,894	268,880
West Texas	179,910	180,636	211,954
North Central Texas	73,262	72,590	80,049
Texas Panhandle	51,195	50,455	55,673
East Central Texas	56,355	56,341	53,891
Gulf Coast Texas	105,424	105,315	152,123
Southwest Texas	57,271	57,328	67,636
Total State of Texas	865,903	857,559	890,206
Kansas	94,110	94,635	108,305
North Louisiana	29,695	30,040	39,825
Gulf Coast Louisiana	37,393	34,395	29,748
Arkansas	34,590	34,940	46,955
Eastern fields	119,000	120,000	111,500
Rocky Mountain area	84,505	85,848	92,299
California—			
Santa Fe Springs	65,750	66,000	73,500
Long Beach	82,500	82,250	88,000
Playa Del Rey	18,000	18,000	29,500
Elwood	16,500	16,250	35,500
Kettleman Hills	65,000	62,250	31,500
Remainder of State	271,750	270,750	277,000
Total California	519,500	515,500	535,000
Total United States	2,240,911	2,171,632	2,461,039

→ Increase, 69,279 Bbls. Daily ←



Oppressive Taxes and Regulation Harassing Natural Gas Business

Annual Meeting Told the Industry Is a Mark for Political Hijackers

By Thomas F. Smiley

Oppressive taxation and the stupidity of laws forbidding the sale of appliances by utilities were repeatedly the subject of protesting comment at the annual convention of the Natural Gas Department, American Gas Association, held this week in the Mayo Hotel, Tulsa, and attended by delegates from throughout the country.

Utilities, it was pointed out, are a shining mark for tax-fixing bodies seeking sources of revenue to make up for their own wastefulness and inefficiency.

Prohibition of merchandising by natural gas companies, it was declared, has defeated the very end it purported to serve in that, instead of increasing the sales of appliances by regular dealers, it has curtailed the promotional efforts of the gas companies, thus causing a falling off in demand. The result has been that the dealer, deprived of the beneficial influence which accrued to his own trade from the advertising and demonstrations conducted by the gas companies, not only has failed to gain the increase in business which he expected, but he has suffered actual loss.

Technical papers and discussions were significant of the research work which has been conducted in the last year and which will be reflected in heightened efficiency in the production and distribution of natural gas in the future.

The convention was opened Monday afternoon by the chairman of the natural gas department, Major T. J. Strickler, of Kansas City, Mo. Invocation by Dr. C. W. Kerr, pastor of the First Presbyterian Church of Tulsa, was followed by an address of welcome by W. F Graham, secretary to Mayor Herman F. Newblock, of Tulsa, after which the regular business of the convention was taken up.

The startling suddenness with which new problems project themselves into the natural gas industry, with demand for prompt and equitable solution, is illustrated by the fact that the sale of appliances by gas companies, which scarcely was alluded to at the Memphis, Tenn., convention of the department in 1931, was discussed in several papers at this year's meeting and was characterized as a subject of grave importance.

No More Vital Question

Attorney LeRoy M. Edwards, general counsel for the Southern Counties Gas Co. of California, declared there probably is no question before the gas industry today more vital or of greater interest than that of how best to meet the drive that is being made to legislate the utilities out of the appliance merchandising field. He called attention to the belief expressed by some persons that this movement, in the guise of a campaign to protect the interests of regular merchants, is really a piece of stratagem to stir sentiment in favor of municipal ownership on the part of those who for reasons of their own advocate that method of operating utilities.

Bills designed to prohibit the sale of appliances by public utilities were introduced in 14 states last year. In only two, Kansas and Oklahoma, were these bills enacted into law, and already, Mr. Edwards asserted, evidences of dissatisfaction with the new laws are discernible.

Mr. Edwards said that the legal right of utilities to engage in the sale of appliances was beyond question, pointing out that this right had been sanctioned repeatedly by regulatory bodies and by state and federal courts. One court opinion quoted by him went so far as to say that instead of forbidding the utility to deal in appliances, "it would be our inclination to insist that it is part of its duty to furnish them to customers." Economic reasons for the sale of appliances by gas companies were equally apparent, the speaker said.

J. F. Owens, of Oklahoma City, president of the National Electric Light Association, addressing himself to the same subject, declared it to be not only the right but the duty of the utility company to show through merchandising the uses which customers may make of gas or of the company's service for their own comfort, convenience and happiness.

Co-operation Urged

Both Mr. Edwards and Mr. Owens urged co-operation with the retail merchants as an essential part of the program which must be adopted to settle the controversy which the sale of appliances by utilities has raised. "In too many cases," said Mr. Owens, "we have gone blithely on our way, merchandising appliances without giving thought to whether or not our methods were such as would conform to recognized merchandising principles. We have not encouraged the hardware dealer, the furniture dealer and the department store manager to promote the sale of appliances. We have not counseled with him. We have not guided him. We have not sought his aid in doing the job."

Mr. Owens suggested that good results could be accomplished by community forums in which the whole question of utility merchandising might be discussed fully and frankly. "We should consider the merchants handling appliances our allies, not our competitors," he added.

Mr. Edwards presented figures in support of his assertion that, far from interfering with the dealer's volume of trade, the utility's entrance into the appliance field increases the trade of the dealer too. Quoting the assertion often made by opponents of utility merchandising that if the utilities retire from the merchandising field either voluntarily or as a result of legislation the independent dealers in appliances will carry on the work as efficiently and satisfactorily as when the utilities are permitted to merchandise, Mr. Edwards said: "We have proven by actual and practical experience in California that this contention upon the part of the opponents of utility merchandising is unsound.

Mr. Olsen Adds Testimony

Additional testimony on this point was given by E. A. Olsen, Tulsa, president of the Oklahoma Natural Gas Corp. Particular significance was attached to Mr. Olsen's statement for the reason that his company operates in one of the two states which have passed laws forbidding utilities to sell appliances.

"The law prohibiting public utilities in Oklahoma from engaging in the business of selling gas or electric appliances has been in effect since last July," said Mr. Olsen. "While an extended time limit was provided for the disposal of merchandise on hand, we chose to discontinue the activity without delay. A plan of co-operation with local dealers was inaugurated by which we were to turn over to them prospects for appliance sales and to extend without cost engineering and sales assistance when needed. We have continued this arrangement to date and feel that most cordial relations have been established between the company and the dealers. Valuable though these relations are, however, sales are not what they used to be."

Sarcasm tinged the comments of Judge H. O. Caster, general counsel for Henry L. Doherty & Co., in his discussion of rate legislation and taxes. Referring to the practice of the Government of imposing taxes to make up for deficits rising out of its own inefficiency and wastefulness, he said:

"In government, it is too often not questioned how few men can do a job, but how many men can be put on it. The Government takes on a clerk. No sooner does he become established than he wants a private office with a swivel chair, a mahogany desk, a brass cuspidor; then he wants a stenographer; then he wants helpers; each helper wants a private office, and so the process begins anew. In private business, these expenditures and useless expansions must be eliminated or the business fails, and only those survive who are able to keep their operating and administrative charges within reasonable bounds. But if the governmental business fails to make its operating expenses, it levies a tax to make up the deficit."

Always Want More

The thirst of the political officeholder for more and more power led Judge Caster to say: "Boards and commissions of almost every description have been established which go all the way from regulating railroads and utilities to investigating businesses of every kind and character. There is ever the tendency of governments to reach out and grasp more and more authority."

Judge Caster expressed the opinion that the advocates of municipal ownership are losing ground because actual trial is demonstrating that this way of operating public utilities is an expensive one. "We believe," he said, "that the taxpayer is beginning to realize that governments, whether they be city, state or national, cannot efficiently and economically manage business enterprises and that this applies to utilities as well as to other industries."

While general business was sinking to abysmal depths in the last two years the natural gas industry was introducing improvements and extending its pipe lines to distant markets, said Elmer F. Schmidt, general superintendent of the Lone Star Gas Co., Dallas, Tex.

"No other industry in the United States has made the forward movement that the natural gas industry has undertaken during this perilous period," said Mr. Schmidt. "During 1930 this expansion rose to the tremendous amount of $230,000,000 and in 1931 to nearly $350,000,000.

"These large expenditures cover only the investment in pipe lines, compressor stations, and other necessary apparatus required for the transportation of gas. Many millions of dollars were also expended for leases, geological work, drilling of wells, investigation of markets, and other requirements preparatory to the introduction and use of natural gas. Then, in addition to these vast sums, it followed that industries were required to prepare their boiler installations to use this service and the individual consumer purchased millions of dollars worth of highly efficient appliances to better avail themselves of the world's most perfect fuel.

"All of this activity gave employment to millions of workers throughout the nation. Mines, railroads, steel mills, pipe mills, equipment manufacturers, automobile manufacturers, shops and factories of so many different varieties were involved in this work to the extent that practically every basic industry in this country was to a greater or less degree directly affected by this unprecedented expansion. There can be no doubt as to the tremendous help which the natural gas industry gave toward alleviating unemployment during these last two years."

Don't Deal With Political Hijackers

Walter Ferguson, vice president of the Exchange National Bank, Tulsa, injected a note of cheery optimism in a talk at the opening session Monday on "This Changing World." Mr. Ferguson produced gales of laughter by good-natured quips directed at Governor Murray of Oklahoma, whom he characterized as "not so good as he thinks he is and not so bad as most other folks think he is."

"The natural gas industry occupies much the same position here in the Southwest that the railroads did when this part of the country was first opened up to settlement," said Mr. Ferguson. "The railroads were a tremendous factor in the development of this region. The natural gas industry is another. I realize that you are hampered at every turn by politicians. The sooner you make up your minds that you will not deal with these political hijackers at all the sooner you will have your business on secure and solid ground. Establish a public relations department that will make it clear to the public that you are running a legitimate business whose interests are close to those of the communities it serves; that you seek only a proper return on your investment, like any other legitimate business, and that there is no money for political footpads. It might do a lot of good too to prevail on Congress to adjourn for about 10 years. I predict that this district will be among the first to return to normalcy, and it will do it through the agencies of oil and gas."

Taxation Real Problem

E. B. Reeser, Tulsa, president of the Barnsdall Oil Corp. and former president of the American Petroleum Institute, added his voice to those raised in protest against the growing practice of saddling industry with taxes in order to meet the mounting cost of governmental waste. "Taxation has become a real problem," said Mr. Reeser. "Whereas corporations do their utmost to co-ordinate their activities and increase efficiency, federal, state and local taxes are permitted to increase beyond all reason. Industry must take co-ordinated action to stop the tide. The time for drifting has passed. The utilities often are used as a smoke screen behind which local and state extravagances are hidden. Every local manager should be required to take part in civic affairs, especially questions of taxation."

Greatly expanded volume of business without a proportionate increase in investment through revolutionizing some of the uses of gas was prophesied by Henry O. Loebell, vice president of the Combustion Utilities Corp., New York, in his paper delivered Tuesday forenoon on "Developing New Uses for Gas and the Need for Such Accomplishment."

Among devices contemplated, Mr. Loebell said, is an energy unit which would heat the home in winter, cool it in summer, provide heat for cooking and water heating, incineration and for refrigeration. All of the appliances would function as needed without imposing an excessive demand on the system.

Entertainment provided for the delegates and women visitors included a barbecue and dance Monday evening, a bridge luncheon Tuesday afternoon and a cabaret banquet and dance Tuesday evening. Many took advantage of the cars and guides provided by the Oklahoma Natural Gas Corp. to enable visitors to see the properties of this company.

Future Is Expected to See Uses of Natural Gas Revolutionized

Heating, Cooling, Refrigeration and Incineration Promised in One Device

By Henry O. Loebell
Vice President, Combustion Utilities Corp.*

The value of gas service is determined strictly by the performance of the appliance. This truth is so self-evident that no explanation of it is necessary.

A customer purchases gas purely for the service it renders through the appliance installed. Consequently the progress of the gas industry, so far as the public acceptance of gas is concerned, is largely in the hands of the appliance manufacturer.

Today, however, the situation has changed. The competition of electricity, butane, oil and coal has awakened our industry. The inroads of these fuels have reduced our volume of sales and seemingly have begun to threaten our position.

The fallacy of encouraging internal competition among appliance manufacturers with no regard to the activities of external competitors has become apparent. The development of new and improved appliances to meet competition and to invade new fields has become a vital necessity.

There is a machine under development by one of the refrigerator manufacturers, which combines a refrigerator with a water circuit for cooling. Its function is to produce cold water at 50° to 60° F. which is brought into contact with the air, thereby cooling and washing it. Its saturation is reduced to that of a temperature equal to the water temperature. This air is then mixed with larger volumes of unconditioned air and the whole is circulated through the rooms. This unit has great possibilities. What it needs mostly is funds for further development.

In the field of house heating, the usual bumper crop of imitations of existing conversion burners has made its appearance. Some improvements have been made by the old and reliable manufacturers of heating furnaces and boilers in design, efficiencies, and controls. While this is not spectacular, it is, at least, progress.

Two Noteworthy Developments

In the industrial field, one of the large industrial furnace manufacturers has contributed two noteworthy developments.

The first of these is a continuous carburizing machine which eliminates the use of the carburizing material previously employed. The operation of this machine is unique in that the material to be processed is carried through a locking device chamber and out through another lock. The gaseous atmosphere in the heating chamber is controlled to give any desired result. This is probably the first sound answer to electrical competition in this particular operation.

The second development relates to an entirely new design for gas-fired glass tanks which attains some revolutionary results. The preliminary figures show an increase in capacity of from 30 to 60 per cent, with a reduction in fuel consumption ranging from 30 to 40 per cent. A further credit to the process is obtained from an improved control which makes possible the production of 92 to 96 per cent (present average 85 per cent) perfect glass. The development of this process will have an important influence on the relation of gas to glass production and will materially increase its value from the viewpoint of the glass manufacturer.

In other phases of industry some minor improvements in equipment or application have been noted, but in general the trend has been to accept the business available at existing rates and to spend some efforts in increasing the efficiency of existing installations.

To the best of my knowledge and belief, this summarizes the developments of the past year. While they are neither startling nor gigantic, they are an advance and an improvement. The important thing is that the industry has at last realized the necessity for the development of proper appliances.

In this channel, the future offers tremendous possibilities.

In 1927, Crossley, Inc., made a survey for the American Gas Association in which they stated that 24 per cent of the women using gas ranges had specified a desire for electricity. This desire was due to odors of gas, the hot kitchen in summer, or unsatisfactory service from the company. This was a good warning.

Entirely New Range

In order to eliminate these objections and restore the gas range to a position of supremacy, it is proposed to develop an entirely new range. This range is to have enclosed burners and thus prevent the dissipation of heat in the kitchen and the escape of unburned gases which emit the offensive odors. As the kettles and pans will have no direct contact with the flames, they will not be blackened. As the burners will not be exposed they will not be harmed by the overflow from vessels on the stove and frequent cleaning and adjustment will be unnecessary. This range will be designed on a revolutionary principle and will not be dissimilar to the present smooth top ranges in use. It is even possible that this range will operate on a constant demand with hot air released from a recuperator instead of the direct flames to the cooking area.

Another development which is contemplated is the energy unit. The plan consists of an installation comprising as a maximum the heating of the home, the cooling of the home, and the heat for cooking, water heating, refrigeration, and incineration. Such combinations of these as the customer selects will be available. A central heating unit on a fixed demand will supply the energy necessary for operation of all of these appliances. The arrangement of the supply will be so interconnected in conjunction with heat interchanger that all of the appliances will function as needed without imposing an excessive demand on the system.

Think what this means. A complete home service to the customer at much less than the cost of the same equipment purchased independently. An opportunity to the gas companies to greatly expand their volume of business without a proportionate increase in investment due to a much higher daily and annual load factor.

Steel Companies Offer Opportunities

In the industrial field, the steel companies offer unlimited opportunities. Gas applied to their large furnaces will result in greater economies, lower maintenance, better control, and other improvements which will give gas a value much greater than any which can be assigned to other fuels.

The cement industry offers an opportunity for a new process which carries the product in a uniform gas flame and eliminates 50 per cent of the waste heat and 75 per cent of the combustion required today.

In the glass industry, further improvements are possible which will entirely eliminate producer gas or oil and will give gas a B.t.u. value twice that of the other fuels.

It therefore appears that the future is promising.

The gas range can be brought back to its dominant position.

The energy unit offers a new market with increased volume at lower rates and reduced capital expenditure.

The industrial field presents countless opportunities for new loads and higher prices.

The only question involved is: Who is to develop these?

There can be no question as to their desirability. The industry itself recognizes the importance of proper appliance development. Therefore, it must—somehow, some way—provide for securing such development.

Should the manufacturers themselves accept the responsibility?

Why should they spend their good money to protect the interests of the industry, when all they have to do is drift with the wind, and as the change from gas to electricity becomes pronounced they can change from gas to electrical equipment without any material expense to themselves? This is exactly the policy they adopted when the gas range replaced the coal stove and would be the sound policy to follow if the present trend continues. And the facts are that they are doing it this very day.

Who Should Correct Errors?

Should the industry itself correct the errors of the appliance manufacturers and tell them what to do and what not to do? It has never assumed that responsibility. It has wilfully and knowingly refrained from interfering with the manufacturers and has only laid down a set of standards for them to follow. The industry itself has never made it attractive for the appliance manufacturers to develop new and revolutionary equipment. On the contrary, it has in many cases discouraged such research work by the actions of its individual members.

The combustion of gas is not a patentable idea. It is difficult to develop gas-burning equipment which cannot be copied by any manufacturer with very minor changes. Consequently, when an appliance manufacturer spends his time and money in the development of a new idea, he can be reasonably sure that it will be copied by a number of other manufacturers as soon as it is introduced.

He knows that he will receive no particular credit for developing the idea. He knows the business will go to the manufacturer having the lowest cost. Therefore, there is no incentive for the appliance manufacturer to develop new ideas and uses of gas.

This is the seat of our difficulties.

It is not conducive to the interests of the appliance manufacturer to develop new uses of gas unless he has some reasonable assurance that he will be compensated for the development expense.

This situation is peculiar to the gas industry. In the electrical industry, it is the General Electric Co. and Westinghouse who contribute the new ideas and the new applications. The research departments of these organizations are constantly engaged in furthering the progress of the industry. The utilities throughout the country in turn support this work by patronizing these companies for both the appliances and the production equipment.

Viewing Situation As It Is

But view our situation as it is. I venture to say that every man in the industry knows of situations where appliances are purchased from some firm because the official responsible for the order merely likes the salesman for that firm a little better, or because he dislikes the competitor's salesman more. I venture to say that in not one case out of a thousand is any consideration given to the question of whether or not the particular appliance manufacturer has ever contributed any real progress to the gas company's interest.

It is this lack of appreciation of the manufacturer's problems which has retarded his progress and contributions to advancement and which simultaneously has permitted competition to make the inroads which it has in our markets.

The whole problem necessitates a revision of the relation between the gas utility and the appliance manufacturer. As related before, under the present conditions the manufacturer who produces something new is certain to see the market flooded with imitations by his competitors and the potential production is divided among the group, with the result that the economies of mass production are never realized. Therefore, there is no incentive for individual research and initiative. However, he can go ahead as at present, watching the trend and changing his products to other fuels as the demand for the latter increases.

But the gas industry cannot afford to permit this. It must have new appliances, superior appliances to meet the increasing competition. And it must provide the incentive for the development of such appliances.

However, it is essential that one wide difference between the appliance manufacturers and the gas utilities be established before any consideration is given to such an incentive.

Research and Development

This difference relates to the source of revenue of the two groups. The appliance manufacturer sells individual units and his sole source of revenue comes from these units. When once a unit has been sold, his opportunity for revenue on that unit has immediately ceased. With a gas company, the unit represents a recurring source of revenue. For year after year that identical installation will prove a steady source of income.

This difference establishes a wide margin in the money which can be allocated to research and development and which places the responsibility for financing such work directly on the utilities. The allocation of the funds can be handled in several methods.

Specific development by designated companies can be subsidized by direct contributions in the manner in which the house-cooling unit is being financed.

It is likewise possible to induce competitive development and provide the incentive by paying the originator of new equipment a royalty on all such appliances installed regardless of who manufactured them or regardless of the legal patent rights of the individual parties.

A third method of providing an incentive consists of rewarding those manufacturers who contribute new ideas and developments through continuous purchases of the various appliances they offer and thus, by giving them volume, provide them with the money essential for maintenance of a continuous research department.

Each of these plans has its advantages and its disadvantages. There will be objections raised against any plan offered. But we have at last reached a point where destructive criticism must be ignored. Which plan is accepted is immaterial.

*Before annual convention Natural Gas Department, American Gas Association, Tulsa, May 9-11.

Oil Leaders Try to Induce Russian Delegates To Limit Petroleum Exports

Representatives of European and American Companies in New York

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, May 9.—With the arrival here of J. B. Aug. Kessler, managing director of the Royal Dutch-Shell; William Fraser, deputy chairman of the Anglo-Persian Oil Co., Ltd., and Robert I. Watson, managing director of the Burmah Oil Co. and director of the Anglo-Persian Oil Co. and Shell Transport & Trading Co., a series of conferences on world oil problems, with particular reference to the marketing of Soviet oil, will be launched. Leading American oil company executives will participate in these meetings, which will be informal in character.

Thus far, the only official indication of the purposes of the meeting is contained in a brief announcement by C. E. Arnott, president of the Socony-Vacuum Corp., who was instrumental in arranging for the attendance of the Soviet delegates at the meetings. Mr. Arnott, in response to inquiries as to the purposes of the scheduled meetings, issued the following statement:

"For some years past Socony-Vacuum Corp., operating in foreign markets, has made purchases from time to time of Russian oil products. The Russians have additional supplies available for export, with the result that a considerable duplication of distributing facilities has taken place, resulting in a general demoralization of the foreign markets outside of the United States, and a meeting will be held for the purpose of determining whether or not some understanding may be reached with a view to correcting this general demoralization."

Mr. Arnott made it clear that the whole discussion at the meetings which will take place would be confined to the economic distribution of petroleum products produced in Russia, and distributed in markets outside of the United States and its foreign possessions, and would in no way have any connection with production, product prices or imports into the United States.

While Mr. Arnott's statement clears up the confusion which has existed as to the original purpose of the foreign oil men to New York at this time, there is considerable speculation in oil circles as to what further conferences may be scheduled after the matters outlined in Mr. Arnott's statement have been cleared up. It is generally felt that further conferences, looking to some possible solution of other pressing world petroleum problems, and the possible establishment of some international accord, may be attempted.

Thus far, the American Petroleum Institute has not been asked to sit in on any conference with the foreign petroleum representatives, and the scheduled meetings thus far are stated to be purely a company conference matter. Owing to the fact that the institute has thus far refused to participate in any meeting of world oil representatives with the Kessler plan as the basis for discussion, it is problematical if the institute will be called into the conference, as it is indicated that the board of directors of the A.P.I. is inclined to adhere to its previous stand with respect to the Kessler plan.

Russian Group Present

The Russian group, which came to New York at the invitation of Mr. Arnott, is composed of Philip Rabinovich, member of the Soviet Comissariat for Foreign Trade; K. Tiaboval, chairman of the Soyuznefteexport, the Soviet oil exporting agency, and R. N. Fridman, president of Russian Oil Products Co. (Ropco), the extensive marketing organization maintained by the Soviet in the United Kingdom.

While the presence of Mr. Kessler and his associates is obviously necessary for any effective understanding on marketing of Russian products in world markets, the belief perists that further efforts to advance the Kessler plan for world oil market rationalization, perhaps in a still further modified form, will be witnessed. It is a coincidence that Henrich van Riedemann of Zurich, Switzerland, European director for the Standard Oil Co. (New Jersey), is in New York at this time. These foreign oil leaders, in conjunction with leading American oil company representatives with whom they are expected to confer, represent the principal oil producing, refining and marketing interests of the world, and while the New York meetings may be confined to consideration of the Russian problem, it is likewise probable that an attempt at least will be made to lay the groundwork for the much sought international compact.

Kessler's Position

European reports this week have stated that Mr. Kessler is coming to the United States on behalf of the Royal Dutch-Shell group in place of Sir Henri Deterding, owing to the bitter hostility between Sir Henri and the Soviet. According to Richard Airey, American representative of Sir Henry, Mr. Kessler will not arrive here with any set program, but will formulate his plans on arrival. "Mr. Kessler informed me of his projected visit by telephone," said Mr. Airey, "stating that he had no set program but was coming here on the invitation of Mr. Arnott, president of the Socony-Vacuum Corp. In view of the presence of other foreign oil representatives it is naturally his desire to be on the ground in person."

Mr. Riedemann's visit to New Jersey headquarters here is reputedly in connection with the pending acquisition of the foreign holdings of Pan American Petroleum & Transport Co. by Standard Oil Co. (New Jersey) and the subsequent absorption of Pan American's European properties by subsidiary and affiliated companies of the New Jersey organization in Europe. He will likewise, however, be in position to advise the New Jersey company in connection with the conference on European marketing by the Soviet.

New World Proposal Expected

In advance of the actual conferences of the foreign and American oil men, nothing definite is known regarding the problems which will engage the consideration of the meeting, aside from the fact that the broad question of Russian exports will be at issue, and that agreements may possibly be arrived at whereby other companies, in addition to Socony and Vacuum, may serve as marketing agencies for the Soviet, to prevent further wasteful duplication of distributing facilities and equipment. In view of the obvious disinclination of leading American oil interests thus far to get behind the Kessler plan for market stabilization, it is expected that a new proposal, or a further drastically revised Kessler plan, may be drawn up at the meetings here for later submission to interested parties.

Mr. Kessler proposed a five-year cooperative plan to be participated in by leading world producing companies, the plan having many ramifications, including allocation of export quotas and closer control of drilling and producing operations. In brief, the Kessler plan contemplated the restriction of production to slightly less than consumption totals, to enable the industry to work off its surplus stocks. The plan was to continue in effect until the free market price of fuel oil f.o.b. Gulf or other such free market as might be deemed representative of world market price had been at least $1 per barrel for a period of six consecutive months, and during the same period the price of 65 gravity gasoline had been at least 8 cents per gallon. After these price levels were attained and maintained, in conformity with the provisions of the Kessler suggestions, the plan was to become inoperative, but subject to reintroduction when prices fell below these specified "critical levels." The "critical levels" specified by Mr. Kessler were 45 cents per barrel over the current posted schedule of bunker oil at the U. S. Gulf and 2½ cents per gallon over the present export price of 64-66 gasoline at the Gulf.

Notwithstanding numerous modifications in the original Kessler plan, designed to bring its provisions in line with American antitrust laws, oil companies in this country have been only lukewarm to the suggested remedy for the industry's evils, believing that there are still too many angles to the entire subject which would leave oil companies in this country vulnerable to Federal Trade Commission attack in the event of participation in the world rationalization plan.

Round Table Discussion

The present move, taking the matter out of the hands of the American Petroleum Institute, which is the official "spokesman" for the petroleum industry in this country, and contemplating a round table discussion of world oil problems and possible formation of suggested rationalization plans, is granted much more prospects of a successful outcome. Following solution of the Soviet oil problem and tentative agreement of the needs of the world oil industry for rationalization, it is held, there is nothing in American statutes to prevent the various companies in the industry, acting individually, to so regulate their production of crude and products as to arrive at an economic balance between supply and demand. Even in the event of the failure of the rank and file of the industry to co-operate in such a move, designed to harmonize American production with proration in other world oil producing countries, the major companies in this country would still be in position to make American co-operation largely effective through close control of their own operations.

So far as agreements regarding world marketing quotas and prices are concerned, which subject is expected to come in for informal discussion at the international conferences here, American oil companies are in position to act with a free hand. Major American companies are already organized for foreign marketing through the export petroleum association. While this organization is now inoperative, it can be revived on very short notice and would be free of all legal hindrances in establishing and maintaining export prices for American crude and refined products.

Export Association

The possibility of the use of the export association as the American agency in a future world cartel was seriously considered at the time of its formation, and it now appears likely that the association is slated to play a prominent part in world oil affairs. Acting as the spokesman for American oil interests, the association will be in position, if revived in agreement with foreign interests, to act as the foreign selling agency for American refiners, to accept quotas allotted the American industry for world consuming markets, and to allocate its orders to oil companies in the United States.

During its brief span of activity, the association actually functioned as the price maker in the Gulf export market, and to a certain extent as the distributor of export orders to member companies, but underselling on the part of some interests, and rumored evasion of equitable prorating of export business, halted the usefulness of the association.

Rumanian producers have been among the strongest proponents of the Kessler plan for rationalization of world markets. The fact that the association of Rumanian producers is not thus far directly represented among the foreign oil men arriving in New York for the conference, it is believed, is not significant, as Mr. Kessler, as spokesman for Royal Dutch-Shell, and Mr. Fraser, of Anglo-Persian, both represent important Rumanian interests. Any understanding that may be arrived at during the meetings here, it is thought, will be ratified by the Rumanian association.

An unforeseen development at the time the Kessler plan was originally proposed, the proposed tariff on American oil imports, threatens to complicate the international conferences here, as American participation in a world rationalization plan is naturally governed to a considerable extent by the quantity of crude and refined petroleum imported into the United States.

Russia's Attitude Altered

The willingness of the Soviet oil representatives to take part in an international discussion for oil stabilization has come somewhat as a surprise, notwithstanding recent assurances from abroad that co-operation by Russia might be looked for. The oil policy of the Soviet has hitherto been one of maximum expansion of production, refining, and export marketing, regardless of the views of competing oil producing countries. The sharp price wars which the Soviet exporting organization has encountered in the past few years and the resultant low prices for its products, combined with the expected heavy production from Iraq, which should materially affect Russia's export markets, are seen as outstanding causes for the modification of the Soviet's views on world petroleum marketing questions.

Another surprise in the present status of the international situation is the part played by Mr. Arnott in bringing the foreign oil men together here. Standard Oil Co. of New York, which is now merged with Mr. Arnott's original company, Vacuum Oil, has long been at odds with the Royal Dutch-Shell combine. This dissension arose from the action of Socony some years ago in entering into a long-term contract with the Soviet for distribution of Russian refined products in certain foreign markets previously dominated by Royal Dutch-Shell and its affiliates. Extensive price wars were waged between the two interests, and the formation of Shell Eastern Petroleum Products, Inc., the American Shell's marketing company on the Atlantic Seaboard, followed close upon the heels of a threat credited to Sir Henri to bring the war between Royal Dutch-Shell and Standard of New York "home" to Socony in New England. These differences of opinion, presumably, are now on their way toward adjustment.

The countries to participate in the

international oil agreement, under the plan proposed by Mr. Kessler, are as follows: United States (on special conditions in accordance with U. S. laws), Venezuela, Russia, Persia, Rumania, Mexico, Dutch East Indies, Colombia, Peru, Trinidad, Poland, Sarawak, and Ecuador.

There were many features of Mr. Kessler's plan which appealed to American oil men, but it appears to have been felt generally that the dangerous aspects of the scheme (from the standpoint of possible conflict with the antitrust laws) outweighed the more favorable and acceptable provisions of the plan. The pending series of conferences it is expected, will make an effort to iron out the difficulties which have aroused the opposition of American oil men, and work out some compromise plan which will be acceptable to the industry in this country.

It is not known yet how many of the leading American oil executives will participate in the conferences here, although it is expected that the major interests will be represented in the "round table" meetings which will be scheduled.

Paris Reports Agreement

A Paris dispatch to the Wall Street Journal says a price agreement between the Russian government oil monopoly and the Royal Dutch-Shell interests, whereby the Soviet will get more for its exported oil than it has during its last few years of oil dumping, is persistently reported in oil circles there. It is said that the quantities to be shipped to each state, notably Great Britain, have not been settled.

Such an agreement, reached in parleys preliminary to the world oil conference scheduled to be held in New York City would be in accord with the Soviet's purpose in joining the conference. When the meeting was suggested, the Russian government immediately determined to participate. It has hopes of drawing definite economic profit therefrom.

It seems probable that as a result of the conference Soviet oil prices will closely approximate those of other large exporters, but it is questionable that if prices are made equal, Soviet oil will obtain the same good market it has enjoyed of late. Britain, France and other countries have taken much Soviet oil because of its cheapness. Whenever dissatisfied French politicians have asked the government why the largest oil fuel contracts are given to Russia, they have been informed that the only consideration was the price. French importers do not conceal the fact that conditions being equal, they prefer not to take Soviet products: For one reason, business with the Soviet is always more complicated and risky than with other venders.

In recent years the Soviet has dumped its oil on world markets, exports rising from 1,461,000 tons in 1924 to 5,100,000 tons in 1931. This oil was sold at prices ranging from 15 to 35 per cent lower than world prices. The government has forced this exportation despite home demand. An acute fuel famine exists in Russia, but almost 25 per cent of the oil produced is exported. Before 1914 only about 10 per cent was sent abroad. The policy of export at any cost has reacted harmfully on other branches of economy, some of them essential to export.

For example, there have been complaints that corn lying in government granaries and elevators has become damp, and partly or wholly spoiled. No oil was available for working the special drying apparatus. Again last year many oil furnaces and locomotives were adapted to the use of coal but the coal shortage has become so acute that Soviet industrial leaders would gladly reconstruct these furnaces and locomotives for oil burning.

The Soviet government hopes that as a result of the conference it will procure abroad for a smaller amount of oil the same amount of money it has received for oil exports in the past few years, and thus retain more oil for home requirements.

Transport is in a bad way. All reservoirs in Baku and Grozny are full of oil, and there is a shortage of tank cars to convey the oil to the ports and home markets.

J. C. Van Eck Urges Rationalization

Shell Union President Declares It Imperative to Bring Production of Crude and Products Within Limits of Consumption

By A. E. Mockler

NEW YORK, May 9.—Changed conditions in the petroleum industry have forced a revision of policy toward the retention of oil leases, according to J. C. Van Eck, president of Shell Union Oil Corp., in his annual report to stockholders. Mr. Van Eck's report calls attention to this relinquishment of leases, which has been rather general on the part of many major companies during the past year.

Mr. Van Eck's report stresses the need for rationalization of the petroleum industry. "The year 1930 was a difficult one in the history of the oil industry," he says, "but the year 1931 proved to be even more trying. The beneficial results of curtailment in other parts of the country were completely nullified by the uneconomic development of the East Texas Field. Confidence in the early restoration of normal conditions in the oil industry, which could readily have been attained through co-operation, was badly shaken. This was the more deplorable because there was no shrinkage in the demand for petroleum products and the unsound conditions existing within the industry could only in part be attributed to the general depression prevailing in the country.

"It is imperative that a rational plan should immediately be evolved to bring production both of crude oil and of products within the limits of consumption, to eliminate the constant menace of excessive stocks, and thus to check the destructive competition which results from oversupply.

Urges Rationalization

"Such a plan is of the utmost importance because modern industrial conditions have materially retarded the operation of those economic laws by which, in the past, supply was naturally adjusted to demand. Until comparatively recent years, the manufacturing and selling cost of any commodity consisted largely of actual out-of-pocket expense, and as soon as its sales price dropped below cost the drain upon cash resources caused prompt closing of plants and subsequent reduction in supply. In our present complicated industrial age, however, a large proportion of manufacturing and selling costs is made up of overhead expense, by which is meant capital charges in the form of depletion, depreciation, obsolescence, etc., and a relatively small proportion is actual out-of-pocket expense. As a result, the sales price of a commodity may drop far below real cost before it becomes less than the out-of-pocket cost. Thus depletion of cash and consequent closing of plants can be long delayed and a manufacturer may, even in spite of heavy losses, maintain a strong cash position and operate his plant long after he would have been forced to close it under former conditions. This prolongation of the period of oversupply is often a principal cause of an industry's demoralization.

"Again, the ill effects of unrestrained production and manufacture have their repercussion upon the entire social and economic structure of the country to a far greater extent than is commonly realized. In its endeavor to rectify the inevitable losses which follow such evils, industry is compelled to economize by reductions in salaries, wages and staff, with the result that the purchasing power of a large body of consumers is greatly decreased and the public revenues are reduced at a time when most needed. These conditions are aggravated by the discouragement of new enterprise and the consequent further restriction in opportunities for employment.

"These facts need not be emphasized, for they merely represent the operation of certain fundamental economic laws and the retardation, in modern times, of the natural correctives. They prove that industry must now devise some substitute for those forces which its own evolution has eliminated. In the case of the petroleum industry, this substitute is essentially a proper balancing of supply (by which is meant production plus stocks) with demand. It is indisputable that the interests of the country as a whole are bound up with the wise conservation of a commodity of which the total supply has been limited by nature. Without this, and similar measures in other industries, stabilization, and the restoration of prosperity to the country as a whole, cannot be attained.

Steps Toward Control

"It is gratifying to report that in the past year a step was taken towards rational control of domestic production that may ultimately have far-reaching effects. As a result of conferences between the governors of the principal oil-producing states, their representatives were nominated to the Oil States Advisory Committee which was formed during the early spring. Its purpose is to consider and recommend changes in the laws of the various states, and means for their cooperation in a program of rational development. It also is intended to act as a fact-finding body. By using the best information obtainable regarding probable demand for petroleum products and transportation facilities, the committee is in a position to make recommendations as to the amount of crude oil which can be economically and fairly produced by each state. At present each state acts under its own conservation laws, although conferences have been held between the governors.

"While the results to date may have fallen short of expectations, material progress has undoubtedly been made and more serious overproduction would have occurred but for the efforts of this committee and the governors of the various states involved. By means of the Oil States Advisory Committee much can be done toward rationalizing the oil industry in this country."

Production of Shell Oil Co., Shell Petroleum Corp., and Wolverine Petroleum Corp. for 1931 aggregated 35,766,325 bbls. gross and 31,057,764 bbls. net. The actual daily production of these companies on December 31, 1931, was 99,137 bbls. net, as against a daily net production of 76,100 bbls. on the same date in 1930. The total daily shut-in production of Shell Union subsidiaries, the report states, is in excess of 524,000 bbls. Notwithstanding this potential, some 28,455,000 bbls. of crude was purchased by the Shell Union group during the past year, to round out its requirements.

RUSSIAN CHAIRMAN DIFFERS ON PURPOSE OF CONFERENCE

By A. E. Mockler

NEW YORK, May 10.—Konstantin Riabovol, chairman of the board of Soyuzneftexport (the Soviet Oil Export Syndicate), stated today:

"Since our arrival in New York upon the invitation of the heads of the Socony-Vacuum Oil Co., many statements have appeared in the press regarding the aims of the oil parleys which are to take place here in the middle of May. Some of these statements are so worded that they create the impression that Soviet oil exports are responsible for the demoralization of the world oil market. One gets the impression that the principal aim of the coming meeting is to discuss the question of Soviet oil only.

"We find it necessary to state that the demoralization of the oil market cannot be due to the role played in the world market by Soviet oil products in as much as Soviet exports of oil constitute only about 10 per cent of the entire world exports. The fact is that the oil business is disorganized in all markets, including those where Soviet oil does not enter at all. Also, there is ample evidence to prove that the British oil market has been disorganized in spite of the acknowledged fact that the Soviet oil marketing organization has adhered strictly to the letter of its agreement with the world oil companies concluded in 1929.

"Very little is said in the various statements regarding the general world economic situation which has resulted in a catastrophic drop in the prices of almost all world commodities, including oil.

"Nothing is mentioned in any of the statements regarding products from Rumania and some other countries which, as is well known, are being sold in the world market at prices below those of Soviet oil products.

"We wish to make it very clear that we understand that the aim of the oil meeting is to discuss the entire oil export situation and that it is not a meeting to discuss Soviet oil exclusively. Soyuzneftexport is not only willing but anxious to co-operate in measures which promise to improve the condition of the world oil markets."

KESSLER ASKS AMERICA TO LEAD THE WAY OUT

NEW YORK, May 10.—The oil industry of the United States will be asked to take the lead "in breaking the vicious circle in the export markets which has resulted in wasting the oil riches of the earth outside the United States, in unemployment and in losses of capital" J. B. Aug. Kessler, joint managing director of the Royal Dutch-Shell group, declared here today on his arrival to participate in the international oil conference.

It is believed that Mr. Kessler will advocate the adoption by the world petroleum industry of some definite plan for international petroleum stabilization.

BOILER COMMITTEE CHANGES

L. W. Vorhees, Union Oil Co. of California, national secretary of the Boiler Committee of the American Petroleum Institute Division of Production, has been appointed chairman to succeed S. J. Dickey, resigned, and R. M. Ketchum, General Petroleum Corp. of California, is the new secretary. Mr. Dickey had served as chairman since the death of A. B. Steen in 1926. Both chairman and secretary of the committee reside in Los Angeles, Calif.

Carl A. Young has advised the membership there will be no session of the committee during the midyear divisional sessions of the Institute in Tulsa, June 1, 2, and 3. Work of the committee will be reviewed at the annual meeting in Houston, Tex., next November.

Mid-Continent Refiners Hold Down Runs

Continue to Observe Conservative Schedule of Operations in Balancing Output With Demand During May

By W. T. Ziegenhain

Although May marks the beginning of the half year in which gasoline consumption is high, Mid-Continent refiners have adopted a low schedule of crude runs and total operations will not be greatly altered from those of April. According to estimates of operations made early in the month, May average runs will total 435,560 bbls. daily, compared with 419,750 bbls. during April. This represents an increase of about 15,000 bbls. This increase will probably prove to be less as the month progresses, however, for cooperative efforts are being made to hold runs to current demands and estimates given early in the month will be revised downward in some instances.

There is no desire on the part of Mid-Continent refiners to boost crude runs unless the products can be moved at a profit. Although such a program has been tried and failed at times in past years, these failures apparently will not serve as a criterion for what may be expected of the present undertaking. In previous years, the industry as a whole, was making money. During the past year the industry as a whole has operated at a loss.

It is true that conditions have improved and in April several refining companies in the Mid-Continent have been able to balance the revenue from refinery products with the expenditures made for operation. This was done by advancing gasoline prices to a profitable level but not high enough to warrant shutdown plants resuming operations nor for operating plants to increase runs and assume the responsibility for weakening the market.

For this reason, the present low rate of crude runs is being viewed with optimism and about the only factor which could disturb present conditions would be the failure to curtail crude production. However, as each month passes there is more security in the belief that crude production in the flush fields will be controlled regardless of incidents that might arise tending to disrupt proration.

Most interest and importance is placed in the decision the Supreme Court of the United States might render in the Champlin Refining Co.'s case in which the company, in effect, seeks to produce a greater volume of crude from its wells in the Oklahoma City Field than the Oklahoma Corporation Commission has permitted. This decision is expected to be rendered now at any time and the dates suggested on which the decision is likely to be announced are May 16 and May 23.

MID-CONTINENT REFINERY OPERATIONS

CRUDE RUNS TO STILLS

	1929	1930	1931	1932
January 1	508,550	535,460	478,795	405,910
February 1	506,800	519,355	470,125	411,280
March 1	514,950	531,500	449,634	401,155
April 1	530,530	555,250	497,391	419,750
May 1	577,500	574,300	510,640	435,560
June 1	583,030	572,250	567,915	.....
July 1	565,800	548,475	588,840	.....
August 1	555,250	526,400	590,545	.....
September 1	552,300	498,710	588,105	.....
October 1	544,720	518,800	472,190	.....
November 1	545,473	506,700	480,440	.....
December 1	540,630	478,360	456,525	.....

OPERATIONS BY DISTRICTS

	May 1 Dly. crude capacity (bbls.)	May 1 Dly. crude runs (bbls.)	Apr. 1 Dly. crude runs (bbls.)	May 1 Dly. increase (bbls.)
District—				
Arkansas	48,000	20,300	20,500	*200
Kansas	153,500	89,500	79,250	10,250
North Louisiana	40,250	27,500	28,000	*500
Oklahoma	309,300	159,100	147,020	12,080
North Central Texas	204,000	93,850	95,700	*1,850
West Texas	139,900	31,360	34,350	*2,990
East Texas	79,800	14,550	14,750	*200
Total	975,450	436,160	419,570	16,590

*Decrease.

Oklahoma

Oklahoma refineries will show the largest increase in crude runs of all areas in the Mid-Continent but this increase is only 12,000 bbls. daily. Considering the total capacity of the Oklahoma plants compared to those of other areas, the increase certainly is not serious.

Two thousand barrels of this increase may be accounted for by the resumption of operations in two plants. These are the Marathon Oil Co. plant at Boynton and the Texas Pacific Coal & Oil Co. plant at Wynnewood. The Marathon refinery will not operate over the first part of the month but a schedule of runs has been tentatively adopted which calls for processing 30,000 bbls. for the month. The Texas Pacific Coal & Oil Co. will run 1,000 bbls. daily during May. The Major Oil Co. at Oklahoma City also resumed operations and will run 200 bbls. daily. To partially offset this the Western Oil Corp. shut down its plant at Beckett.

Several construction jobs of major importance are under way in Oklahoma at present and other jobs will start just as soon as final appropriations are made for the work. The more important work includes a rather complete revamping of the Marathon Oil Co. plant at Bristow to include new cracking units and the installation of a 2,000-bbl. combination skimming and reforming unit at the Ponca City plant of the Empire Oil & Refining Co. The Continental Oil Co. is rebuilding the chillers and parts of the centrifuge plant used in the manufacture of bright stock which were destroyed by fire several weeks ago.

If refiners are successful in maintaining a profitable market over the next few months it is almost certain that additional cracking units will be built, in order to produce gasolines of higher antiknock value.

North Central Texas

The North Central Texas group of refiners will run practically the same volume of crude during May as they did during April. Three plants which were idle part of the time in April will operate on a full schedule of runs during the month. These include the Shamrock Oil Co. at Sunray, the Dixon Creek Oil & Refining Co. at Kings Mill and the Southland Refining Co. at Olney. The Shamrock Oil Co. mentioned above, took over the plant of the Apache Refining Co.

The only plant added to those shut down is the Primrose Refining Co. at Wichita Falls. This is but a temporary measure.

West Texas

West Texas refiners continue to curtail runs and the May schedule will total but 31,360 bbls. daily. This is a new low for the area and is a reduction of 3,000 bbls. from the schedule for April. There were only two important changes in the status of the operating and shutdown plants. The Tonkawa Petroleum Co. resumed operations in its plant at Pyote and the Grayburg Oil Co. discontinued operations at its plant in San Antonio.

East Texas

East Texas refiners will hold crude runs to the approximate level of operations in April. The V.O.E. Refining Co. has established a schedule of 300 bbls. daily in its runs for May but this is the only plant to resume operations among those shut down in April. The Henderson plant of the Burford Oil Co. operated for a short time in April but will again be idle during May.

Kansas

Kansas plants will run approximately 8,000 bbls. more oil during May than April, the increase being accounted for by a rather general boosting of runs, a small volume in a number of plants. The Sinclair Refining Co. continues to hold its Argentine plant idle but this is the only plant in Kansas which is not now operating. The Altitude Petroleum Corp. has resumed operations in its plant at Chanute.

Arkansas and North Louisiana

There are practically no changes in the operations of the plants in Arkansas and North Louisiana. Crude runs in each area will be within a few hundred barrels of the schedules for April and there is no change in the status of the operating and shutdown plants.

REFINERY OPERATIONS IN WEST TEXAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs May 1	Runs Apr. 1
Bluebonnett Oil Refining Co., Wickett	5,000	(*)	(*)
Burford Oil Co., Pecos City	6,000	(*)	(*)
Coltex Refining Co., Colorado	10,000	2,000	5,400
Concho Refining Co., San Angelo	300	50	40
Cosden Oil Co., Big Spring	15,000	5,200	6,200
Deer Oil Corp., Luling	2,500	(*)	(*)
Ewmo Oil Corp., Luling	2,500	(*)	(*)
Grayburg Oil Co., San Antonio	6,000	(*)	1,700
Great West Refining Co., Big Spring	8,500	(*)	(*)
Gulf Refining Co., Sweetwater	5,000	4,000	4,000
Howard County Refining Co.	2,500	(*)	(*)
Humble Oil & Refining Co., San Antonio	5,000	1,950	1,000
Humble Oil & Refining Co., McCamey	15,000	(*)	(*)
Magnolia Petroleum Co., Luling	5,000	3,300	3,300
Marathon Oil Co., Del Rio	5,000	1,500	1,700
Misko Refineries, Inc., Laredo	1,500	900	350
Motor Fuel Products Co., Laredo	2,000	(*)	(*)
Paramount Refining Co., San Angelo	2,000	600	600
Pasotex Petroleum Co., El Paso	14,000	4,300	4,200
Pioneer Oil & Refining Co., Somerset	1,500	1,000	800
Richardson Refining Co., Big Spring	6,000	(*)	(*)
Rio Rrande Oil Co., El Paso	6,000	1,000	1,000
Signal Gasoline Co., Texon	500	(*)	(*)
The Texas Company, San Antonio	3,000	2,500	2,500
The Texas Company, El Paso	2,000	500	500
Tonkawa Petroleum Co., Pyote	5,000	1,500	(*)
Texas Mexican Oil & Refining Co., Laredo	600	400	400
Texas Petroleum Products Co., Somerset	1,500	600	600
Wickett Refining Co., Wickett	2,500	60	60
Total	139,900	31,360	34,350

*Shut down.

REFINERY OPERATIONS IN NORTH LOUISIANA

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs May 1	Runs Apr. 1
Bayou State Refining Co., Hosston	750	(*)	(*)
Louisiana Oil Refining Co., Shreveport, Bossier	19,000	13,000	13,500
Spartan Refining Co., Shreveport	10,000	6,500	6,000
Stanolind Oil & Gas Co., Superior	3,500	3,000	3,500
The Texas Company, Shreveport	7,000	(*)	(*)
Total	40,250	27,500	28,000

*Shut down.

REFINERY OPERATIONS IN KANSAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs May 1	Runs Apr. 1
Altitude Petroleum Corp., Chanute	5,000	1,000	(*)
Barnsdall Refineries, Inc., Wichita	4,000	3,200	2,500
Derby Oil Co., Wichita	7,500	4,000	3,500
Eldorado Refining Co., Eldorado	4,500	3,000	2,500
Golden Rule Refining Co., Wichita	1,500	1,000	750
Kanotex Refining Co., Arkansas City	12,000	6,000	6,000
National Refining Co., Coffeyville	6,500	5,000	6,000
Phillips Petroleum Co., Kansas City	7,500	7,500	6,000
Shell Petroleum Corp., Arkansas City	22,000	14,000	14,000
Sinclair Refining Co., Coffeyville	12,000	10,000	9,000
Sinclair Refining Co., Argentine	9,500	(*)	(*)
Skelly Oil Co., Eldorado	23,000	13,800	10,000
Standard Oil Co. of Kansas, Neodesha	20,000	6,000	6,000
Vickers Petroleum Co., Potwin	3,500	2,000	2,000
White Eagle Oil Corp., Augusta	15,000	13,000	13,500
Total	153,500	89,500	81,750

*Shut down.

(Continued on Next Page)

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs May 1	Runs Apr. 1
All State Refining Co., Thrall	3,000	1,000	1,100
American Refining Properties, Wichita Falls	6,000	(*)	(*)
Shamrock Oil Co., Sunray	4,000	400	(*)
Archer Refining Co., Megargel	1,500	450	500
Atlantic, Pacific & Gulf Refining Co., Wichita Falls	5,000	(*)	(*)
Continental Oil Co., Wichita Falls	6,000	4,000	2,500
Dale Oil & Refining Co., Electra	4,000	(*)	(*)
Deer Oil Corp., Brownwood	2,000	(*)	(*)
Dixon Creek Oil & Refining Co., Kings Mill	3,500	800	(*)
Echotex Refining Co., Echo	3,000	100	100
Empire Oil & Refining Co., Gainesville	5,000	3,500	3,300
Falls Refining Co., Wichita Falls	2,000	700	1,000
Gratex Refining Co., Graham	500	150	130
Gulf Refining Co., Fort Worth	10,000	6,000	6,000
Humble Oil & Refining Co., Breckenridge	2,000	(*)	(*)
Humble Oil & Refining Co., Chilton	4,000	400	500
Humble Oil & Refining Co., Neches	5,000	1,650	2,000
Iowa Park Producing & Refining Co., Iowa Park	2,500	400	800
Kent Refining Co., Minerva	2,000	350	350
Kent Refining Co., Angus	4,000	150	200
LaSalle Petroleum Co., Burkburnett (Noble)	3,500	(*)	(*)
Macmillan Petroleum Co., Isom	8,000	(*)	(*)
Magnolia Petroleum Co., Fort Worth, No. 1	12,000	2,200	4,200
Magnolia Petroleum Co., Fort Worth, No. 2	6,000	3,400	2,200
Magnolia Petroleum Co., Corsicana	5,000	4,500	4,500
Marathon Oil Co., Fort Worth	5,000	3,800	3,500
Muenster Refining Co., Muenster	300	(*)	(*)
Olney Oil & Refining Co., Olney	2,500	2,000	1,500
Oriental Oil Co., Dallas	5,000	1,300	1,500
Panhandle Refining Co., Wichita Falls	5,000	2,000	2,000
Petroleum Refractionating Co., Pampa	6,500	6,000	6,000
Phillips Petroleum Co., Isom	18,000	17,000	17,500
Primrose Refining Co., Wichita Falls	2,500	(*)	2,000
Sinclair Refining Co., Fort Worth	5,000	2,500	2,300
Simms Oil Co., West Dallas	4,500	3,000	3,000
Southland Refining Co., Olney	1,000	200	(*)
Seymour Refining Co., Seymour	250	(*)	(*)
Star Refining & Producing Co., Fort Worth	1,500	700	800
Superior Refining Co., Tiffin	2,000	(*)	(*)
Taylor Refining Co., Taylor	6,000	1,400	1,700
Taxman Refining Co., Wichita Falls	2,500	2,700	2,000
The Texas Company, Dallas	16,000	15,000	15,000
The Texas Company, Amarillo	4,000	2,000	2,000
Tidal Western Refining Co., Burkburnett	3,000	(*)	(*)
Texas Pacific Coal & Oil Co., Fort Worth	3,000	2,000	2,000
Texas Pacific Coal & Oil Co., Caddo	1,000	500	650
Waggoner Refining Co., Electra	3,400	1,500	3,000
Wilcox Oil & Gas Co. (Pampa Refining Co.), Pampa	4,000	(*)	(*)
Young Refining Co., Archer City	250	(*)	(*)
Total	204,000	93,850	95,700

*Shut down.

REFINERY OPERATIONS IN OKLAHOMA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs May 1	Runs Apr. 1
Altitude Petroleum Corp., Oklahoma City	3,000	800	1,000
Anderson-Prichard Oil Corp., Cyril	5,000	4,200	3,500
Barnsdall Refineries, Inc., Barnsdall	6,000	3,500	3,500
Barnsdall Refineries, Inc., Okmulgee	10,000	5,000	4,500
Bell Oil & Gas Co., Grandfield	4,500	1,800	1,800
Black Gold Refining Co., Oklahoma City	1,500	750	700
Capital City Refining Co., Oklahoma City	2,500	150	100
Century Petroleum Co., Tulsa	500	(*)	(*)
Century Petroleum Co., Oklahoma City	2,500	1,500	1,600
Champlin Refining Co., Enid	16,000	8,000	6,000
Continental Oil Co., Sapulpa	10,000	1,500	1,500
Continental Oil Co., Ponca City	30,000	9,000	10,070
Cushing Refining & Gasoline Co., Blackwell	1,800	1,500	1,500
Cushing Refining & Gasoline Co., Cushing	3,500	3,000	3,000
Deep Rock Oil Corp., Cushing	10,000	10,000	9,500
Eason Oil Co., Enid	5,000	3,000	2,500
Empire Oil & Refining Co., Okmulgee	4,000	3,500	3,300
Empire Oil & Refining Co., Ponca City	12,000	8,700	8,000
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	2,200	2,200
Globe Oil & Refining Co., Blackwell	7,500	6,500	4,500
Gulf States Oil Corp., Oklahoma City	3,500	800	1,500
Johnson Oil Refining Co., Cleveland	6,000	4,800	3,500
Major Oil Co., Oklahoma City	2,000	200	(*)
Mid-Continent Petroleum Corp., West Tulsa	40,000	20,000	19,000
Marathon Oil Co., Boynton	2,500	1,000	(*)
Marathon Oil Co., Bristow	5,000	(*)	(*)
Phillips Petroleum Co., Okmulgee	5,000	4,500	4,500
Producers Oil Co., Bristow	2,500	1,000	1,000
Producers & Refiners Corp., West Tulsa	6,000	4,000	3,500
Pure Oil Co., Ardmore	5,000	2,300	2,300
Pure Oil Co., Muskogee	9,000	7,000	8,000
Rock Island Refining Co., Beckett	5,000	4,000	4,000
Sinclair Refining Co. (Pierce), Sand Springs	3,000	2,300	2,300
Sterling Refining Co., Oklahoma City	2,000	650	1,500
Sun Oil Co., Yale	5,000	3,500	3,200
Sunray Oil Co. (C. H. Wright, receiver), Allen	7,000	3,000	2,500
The Texas Company, West Tulsa	15,000	8,000	7,000
Texas Pacific Coal & Oil Co., Wynnewood	3,000	1,000	(*)
Tidal Refining Co., Drumright	15,000	9,000	7,000
Western Oil Corp., Beckett	2,000	(*)	500
White Oak Corp., Allen	8,000	(*)	(*)
Wilcox Oil & Gas Co., Bristow	5,000	3,500	3,000
Wirt Franklin Petroleum Corp., Ardmore	4,000	3,150	3,350
Yale Oil Corp., Yale	2,000	500	400
York Refining Co., Oklahoma City	3,000	300	200
Total	309,300	159,100	147,020

*Shut down.

REFINERY OPERATIONS IN EAST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs May 1	Runs Apr. 1
Arrow Refining Co., Overton	2,500	(*)	(*)
Beacon Oil & Refining Co., Henderson	2,500	1,000	1,000
Boone Refining Co., Arp	500	600	800
Central Refining Co., Friars Switch	10,000	(*)	(*)
Constantin Refining Co., Overton	3,000	(*)	(*)
Diamond Refining Co., Overton	3,000	400	500
East Texas Refining Co., Henderson	6,000	(*)	(*)
East Texas Refining Co., Longview	10,000	8,000	9,200
Gladetex Refining Co., Gladewater	500	300	300
Gladewater Refining Co., Gladewater	1,000	400	400
Guillory Refining Co., Kilgore	200	150	100
V. O. E. Refining Co., Gladewater	500	300	(*)
Kilgore Refining Co., Kilgore	1,500	700	400
Overton Refining Co., Overton	3,500	800	750
Petroleum Refractionating Co., Longview	10,000	(*)	(*)
Sinclair Refining Co., Camps Switch	5,000	900	500
Southern Oil & Refining Co., Kilgore	2,500	300	200
Slack Petroleum Co., Willow Springs	2,500	(*)	(*)
Taylor Refining Co., Tyler	15,000	700	700
Total	79,500	14,550	14,750

*Shut down.

REFINERY OPERATIONS IN ARKANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs May 1	Runs Apr. 1
James H. Berry & Sons, Waterloo	2,000	1,000	1,000
Henry H. Cross Co., Smackover	6,000	4,000	4,000
Houston Oil Co., Camden	5,000	(*)	(*)
Kettle Creek Refining Co., Pearson	5,000	1,800	2,000
Lion Oil & Refining Co., El Dorado	12,000	4,000	4,300
Macmillan Petroleum Products Co., Norphlet	2,000	1,800	2,000
Ouachita Valley Refining Co., El Dorado	2,000	1,000	700
Root Refining Co., El Dorado†	10,000	4,000	4,000
Simms Oil Co., Smackover	3,000	2,700	2,500
Union Asphalt Co., El Dorado†	.....	.....	.....
Total	48,000	20,300	20,500

*Shut down. †Reduces residuum purchased from Lion Oil & Refining Co., no crude run.

FIELD OPERATIONS IN APRIL SHOW 18 PER CENT INCREASE

Field operations east of California during April showed an increase of 18 per cent over the close of March. At the close of April the rigs and wells drilling showed an increase of 310, while in the course of the month the wells completed exceeded those of March by 170, indicating a total increase of 480 operations within the month.

The increase was not confined to any particular producing division. It was evident that in nearly all the oil-producing states there had been some increase. It was most evident in eastern Texas, where development of the East Texas Field is feverishly going on, and wildcatters are busy in the outlying counties trying to open other pools.

The recent price increase is not wholly responsible because the full effect of the rise in prices has not yet become manifest, but it had something to do with the revival in operations. Oklahoma showed a gain of 24 in rigs up and a gain of 32 in wells drilling, a total gain of 56 operations. Kansas showed 13 more completed wells, and 15 more drilling wells, but a net increase in development work of 13, there having been 17 less rigs up at the close of April. North Central Texas reported 44 more completed wells and yet had 40 more wells drilling at the close of the month. The Gulf Coastal fields completed 21 more wells, yet had 23 more wells drilling when the month was closed. In the East Central and East Texas counties there were 93 more completed wells in April than in March, yet at the close of April there were 150 more derricks up and wells drilling, than at the close of March, a total increase of 243 operations in the course of the month.

Following is the summarized report of completions and drilling operations for April:

SUMMARY OF ALL FIELDS

Wells Completed

	Comp.	Prod.	Dry	Gas
Eastern	93	281	14	15
Central Ohio	29	68	8	17
Lima	6	215	0	3
Indiana	14	255	7	5
Michigan	16	18,295	5	1
Kentucky	48	1,460	15	9
Illinois	4	0	4	0
Kansas	43	14,556	12	1
Oklahoma	79	55,137	32	7
North Central Texas	101	2,728	62	5
E. Cent. and E. Tex.	499	34,074	26	1
East Texas gas area	8	0	5	3
West Texas	13	835	9	1
Panhandle Texas	9	3,094	0	1
Gulf Coast	64	26,220	28	2
Southwest Texas	77	2,562	44	2
North Louisiana	13	2,230	7	2
Arkansas	4	300	3	0
Mississippi	5	0	0	5
Montana	1	0	1	0
Wyoming	3	128	0	0
Colorado	1	0	0	1
New Mexico	2	6,294	0	0
Total April	1,132	168,732	282	81
Total March	962	125,539	217	91
Difference	170	43,193	65	10

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Eastern	58	119	177
Central Ohio	21	68	89
Lima	4	24	28
Indiana	1	61	62
Michigan	46	86	132
Kentucky	9	66	75
Missouri	0	1	1
Tennessee	0	14	14
Illinois	1	21	22
Kansas	25	127	152
Oklahoma	89	280	369
North Central Texas	48	147	195
E. Central and E. Tex.	333	374	707
East Texas gas field	4	30	34
West Texas	22	100	122
Panhandle Texas	12	41	53
Gulf Coast	10	123	133
Southwest Texas	25	113	138
North Louisiana	38	48	86
Arkansas	8	32	40
Mississippi	6	11	17
Alabama	2	3	5
Montana	16	49	65
Wyoming	11	64	75
Colorado	11	66	77
New Mexico	6	47	53
Utah	1	19	20
Total April	807	2,134	2,941
Total March	748	1,883	2,631
Difference	59	251	310

New Marketing Unit Of Consolidated Oil Moves Into Offices

The Sinclair Prairie Crude Oil Marketing Co. has established offices in the Exchange National Bank Building in Tulsa and Nelson K. Moody, president; E. B. Marlow and H. A. Meyer, vice presidents, and the office force, have moved in and already the company is functioning smoothly. This organization is the crude oil buyer for the Consolidated Oil Corp. Up to recently the business of buying crude oil had been conducted by a division of the Sinclair Refining Co. With the merger of the Sinclair and Prairie companies a separate marketing company was set up, with Nelson K. Moody, formerly president of the Prairie Oil & Gas Co. at its head.

PRAIRIE MINORITY MAY FIGHT RECENT MERGER

CHICAGO, May 9.—Minority stockholders of the Prairie Pipe Line and the Prairie Oil & Gas Co. Monday announced formation of a protective committee to attack the recent consolidation with Sinclair Consolidated Oil Corp.

Members of the committee are: William Roy Carney, Chicago coal man, chairman; Quintin Johnstone, Jr., also of Chicago, secretary, and Kreigh G. Carney, Des Moines.

Chairman Carney said a suit would soon be filed in the U. S. District Court attacking the validity of the consolidation. He would not say whether the suit would be filed in Chicago or in Kansas. Approximately 5 per cent of the stock in the two Prairie companies is represented by the committee.

According to the terms of the consolidation, stockholders of the Prairie Pipe Line Co. were given 1.4 shares of Sinclair Consolidated Oil Corp. stock in exchange for each share of Prairie held and the stockholders of Prairie Oil & Gas were given one share for each share held.

The name of the merged company was also changed to the Consolidated Oil Corp.

The minority group contends that their stock was worth much more than they were awarded under the terms of the deal.

MILTON GUITERMAN DIES

Milton Guiterman, president of the Acorn Oil Co., of Beaumont, Tex., died of heart disease after a week's illness at his residence in New York, in his seventieth year. A native of Cincinnati, Mr. Guiterman spent most of his career in Texas, where he developed oil properties.

Developing New Method of Rating Pressure Lubricants

* * * * * *

The Lubricants Research Subcommittee of the Society of Automotive Engineers, Inc., was organized in June, 1931, to develop tests to evaluate the properties of "Extreme Pressure Lubricants"; also to formulate tests to determine what the lubrication requirements of gears and bearings are, with the idea of correlating the tests on oils with the requirements of gear and bearing.

During the past nine months a general survey has been made to determine what information is available on this subject, and a program outlined to carry on the work. The purpose of the accompanying report is to briefly sumarize findings of the Subcommittee and plans to investigate this problem.

Research work in independent laboratories showed that certain lubricants prevented scoring and galling of gears in a Hypoid rear axle, under operation conditions which would cause failure with conventional mineral oils and greases. Further investigation showed other types of gear units operating under conditions such that the gear teeth were scored or galled were, in many cases, satisfactorily lubricated with these special lubricants. The term "Extreme Pressure Lubricants" has been applied to such products.

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A large portion of the original work on extreme pressure lubricants was done by the Gleason Works, General Motors research laboratory and Timken Roller Bearing Co., some of the results of which have been published.

It soon became obvious that extreme pressure lubricants were of general interest, and testing work has since been started by manufacturers of gear sets, antifriction bearings, axles and transmissions, automobiles, commercial vehicles and lubricants; also operators who use the products of these manufacturers.

The independent work of these investigators has been very valuable, resulting in a number of laboratory testing machines for evaluating "extreme pressure lubricants" and considerable information on the subject.

Results of Investigation

The lubricants research subcommittee, made up of representatives of all the industries involved, has given consideration to all of the data available and the following appears to represent the situation at the present time:

1. Lubricants are available which are more effective in gear sets and bearings at higher loads than those at which ordinary mineral oils and greases are effective. There are several types of such lubricants which appear to be satisfactory.

2. Many gear sets and bearings are capable of operating at higher loads when extreme pressure lubricants are used. The exact conditions under which such lubricants are required is not known nor the effect of different metals on this requirement. Indications are that under conditions where conventional oils and greases are satisfactory, nothing is to be gained by using extreme pressure lubricants.

3. There are considerable variations in results obtained on different laboratory testing machines so that there is no standard method to evaluate extreme pressure lubricants.

4. Final conclusions as to properties of extreme pressure lubricants can only be reached by carefully observing the results obtained in the units to be lubricated. Most of the test machines give an indication of properties of the lubricants, but cannot be relied upon to check each other or indicate the essential properties of extreme pressure lubricants.

5. Work done by a number of organizations indicates that four of the more important properties of extreme pressure lubricants are: (a) Load-carrying capacity before seizure; (b) tendency to cause wear or abrasion; (c) corrosiveness, and (d) stability, both in storage and in service.

The lubricants research subcommittee, after thoroughly studying the problem, decided that the most important phase of the work is to investigate the load-carrying capacity, since the other properties of the lubricants are of no consequence if the lubricant will not stand the load.

It is important to have available a test method to evaluate extreme pressure lubricants—in other words, a "yard stick"—so that the refiner can make lubricants with the necessary properties and the user specify such lubricants if desired.

Future Plans

The work of the subcommittee is to be carried on by the Bureau of Standards, under the supervision of the subcommittee. In addition to the experimental work which will be done at the bureau they will correlate any data which are made available by other members of the subcommittee. It is planned to follow this program immediately:

1. Measurement of the load-carrying capacity of representative types of extreme pressure lubricants with the General Motors, Timken and other machines, following the procedure recommended by the designers.

2. Correlation of these data with actual service performance.

3. Development or recommendation of a significant and practical test machine and procedure.

It is estimated that the desired information on the most important phase of the work—load-carrying capacity—can be obtained in one year. This research is to be financed by individual contributions from the industries interested in this project.

In order to avoid these objections and to reduce the time required for testing a lubricant, a number of different types of special test machines have been built by concerns interested in the problem. The best known of these are the General Motors abrasion test machine[1] and the Timken Roller Bearing Co.'s oil testing machine[2]. The following brief outline of their design is given only to illustrate machine types.

In the General Motors machine a hardened steel shaft rotating in a bath of the test oil is loaded up to 25,000 pounds per square inch or more, through a hardened steel bushing. The performance of the lubricant is judged by the load carried before seizure takes place, or if no scuffing occurs, by the frictional load and the condition of the parts. Other machines using small shafts and different methods for the rubbing parts have been developed and are in use today.

In the Timken machine, a small square block of hardened steel is forced into contact with the outer surface of a Timken bearing cup which is rotated on a shaft. Loads and speeds may be varied within a wide range but it is customary to judge the value of a lubricant by the load it carries at a selected rubbing speed, without scuffing of the test block. The amount of wear and the friction are also considered.

Other types of test machines include rotating discs with face or edge contact, small gear sets, etc. New types are under development at present. While most of the machines are being used for research work or factory test purposes some are being employed in the field to demonstrate the value of commercial E.P. products.

Test Machine Results Conflicting

The most outstanding fact developed by comparison of the results obtained with the various test machines using identical lubricants is that there is an astonishing lack of agreement between machines in the rating of individual products. Further, the divergence in results is even more marked when service experience is taken into consideration. On one machine a given lubricant may pass and give good results in service while on another machine it may fail. Some lubricants fail in service yet appear to be satisfactory based on test machine results.

History of Testing

With the earliest use of these "extreme pressure lubricants" it was obvious to both producer and user that some method of determining whether or not they possessed the desired degree of load carrying ability, must be devised since the conventional method of laboratory analysis gave little or no information regarding this all important property. From a practical standpoint the simplest and most convenient procedure was to try the lubricants in the units for which they were needed, using various methods of overloading the gears and accelerating the test work.

Such tests had the merit of approximating service conditions to a degree depending upon the procedure followed. This varied widely, some manufacturers applying very severe shock loads, while others called for prolonged running with loads equivalent to full engine torque. The Gleason method of hypoid gears is a well known example of the latter type.

In brief it may be said that today there is no test machine or method available which will rate correctly the E.P. characteristics of all of the different types of lubricant as shown by their performance in service.

[1]Paper presented at the twelfth annual meeting, American Petroleum Institute, at Chicago November 12, 1931.

[2]See S.A.E. Journal, January, 1931, Page 53, Volume 28, No. 1.

ORGANIZATION AND PERSONNEL OF LUBRICANTS RESEARCH COMMITTEE

Chairman: Col. H. W. Alden, Timken Detroit Axle Co.
Secretary: Dr. H. C. Dickinson, Bureau of Standards

SUBDIVISIONS

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Executive Committee

Chairman, Secretary, Chairmen Subdivisions

OFFICERS CONGRATULATED

Officers of the Pittsburgh Equitable Meter Co. and the Merco Nordstrom Valve Co., in attendance at the natural gas convention in Tulsa this week, were being congratulated on the association of interests of the two concerns. The officials in Tulsa for the meeting included W. F. Rockwell, president of the Pittburgh Equitable Meter Co., who becomes president of the Merco Nordstrom Valve Co.: L. A. Dixon, assistant to the president: A. D. MacLean, chief engineer; and W. H. Parker.

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New Development in Wilcox Sand Area of Oklahoma City Field

Recent Completions in Secs. 22 and 26 Indicate Excessive Pay Zone Erosion

By L. G. E. Bignell
Petroleum Engineering Editor

Recent development in the southwestern part of the Oklahoma City Pool has added some important knowledge about sand conditions there. Two wells drilled into the Wilcox sand in Sections 22 and 26, Township 11n, Range 3w have been somewhat disappointing, and it now appears that instead of a tract upon which from 80 to 100 deep wells could be profitably drilled this extension will warrant only a limited number of holes.

Unfortunately the area is cut up into numerous small tracts, some of five-acre size and a few even smaller. If former practice in offering the public unit shares in drilling companies to put down holes in this area is to be followed, it will only result in a loss of the money spent. From all evidence now at hand it would seem that the play in this section should be very conservative, and wells should be drilled only upon fairly large leases.

This new portion of the field lies between the thickly drilled Wilcox sand in Sections 2, 11 and 14 on the north and the south end of the field, where there are also a number of Wilcox sand wells. Wells in the north part of the field have averaged between 30,000 and 40,000 bbls. initial flow, and those in the south end between 15,000 and 20,000 bbls. initial. Wells in Sections 22 and 26 have been very small, one making only 50 bbls. in a two-hour test and the other flowing 138 bbls. of oil in three hours.

One well was reported as making water, but examination of the report from the field indicates that the water reported was drilling water that had been forced into the sand. The rate at which it was produced declined from about 4 per cent when it first was noted to about .9 per cent at the end of the test. When the well is again opened it is anticipated that water will have disappeared entirely. This condition of producing drilling water when the well is first opened is not new to Oklahoma City Wilcox production.

Edge water is a menace in this section of the Wilcox producing sand zone, and will probably put in its appearance later because of conditions set up by excessive erosion of the upper part of the Wilcox sand member. The two completions report that there is about 75 feet of the top of the Wilcox sand missing in one well and 50 feet of missing section in the other.

Channelling Probable

In other parts of the field there has been found great thicknesses of the Wilcox sand, in some places as much as 200 feet having been penetrated. The water level datum line has been placed at 5,365 feet below sea level. This is a constant, and marks the western edge contact between oil and water. To complete wells it has always been considered good practice to keep the bottom of the hole well above this water level.

In the wells in Sections 22 and 26 it was found that the sand thickness was much less than anticipated. The only explanation seems to be based on the assumption that a greater amount of erosion took place in this part of the Wilcox section than elsewhere in the field.

If this is true it will follow that the contact between the Pennsylvanian formation and the top of the Wilcox will dip sharply to the west. This will reduce the effective Wilcox sand thickness very rapidly and leave only a narrow portion along the eastern contact edge where wells can be drilled safely. It is estimated that about six or seven wells along this eastern edge will be sufficient to test out this area.

If wells are drilled to the west and down dip from the new completions, it is anticipated that they will have only a slight penetration into the sand before they will reach the water level. If care is not taken in completing the well, water will be encountered, and if permitted to move up dip will flood the sand to the east. From past experience in the lower Simpson it is anticipated that once water has been permitted to enter the Wilcox from the western contact zone it will move north and south and cause much damage.

Bottom Hole Pressures

This assumption is based upon several known conditions. There has been about 40,000,000 bbls. of oil reported withdrawn from the Wilcox sand. This would create voids in the formation of approximately 224,000,000 cubic feet. It is known that one well in Section 2 on the west edge of the field has a bottom hole pressure of only 2,080 pounds. This well has a penetration into the Wilcox of only 35 feet and will make some water if produced at even a nominal rate.

Crossing this Wilcox a distance of about three-quarters of a mile to the east, other wells indicate quite clearly from top hole pressures that their bottom hole pressures are not in excess of 1,900 pounds. Some of these wells make practically all gas, which makes checking reasonably certain.

The initial water pressure in this zone is estimated at about 2,400 pounds, and there is no reason to assume that this hydrostatic pressure has been reduced in any appreciable degree by changes that have occurred in the field during the producing period of over three years.

Therefore to the west of the oil-bearing portion of the Wilcox sand lies a wall of water under a hydrostatic pressure of about 2,400 pounds, and to the east of it and up dip the oil and gas zone only have pressures of between 2,080 and 1,900 pounds, getting progressively lower toward the east.

It has been demonstrated by check of conditions in the lower Simpson sands that the removal of a few millions of barrels of oil will set free large volumes of gas. The gas-oil ratios in some Wilcox wells has been steadily increasing. The pressures have dropped from 2,400 to about 1,950 pounds, or a loss of over one-fifth of the original pressure in this sand. If this is converted into energy it means that with the recovery of 40,000,000 bbls. of oil one-fifth of the natural energy of the sand has been dissipated. This would indicate an additional recovery of only 160,000,000 bbls. of oil by using the remaining four-fifths energy.

Migration

There is another condition that will enter into the consideration of total recovery from this zone. Portions of the Wilcox sand to the west of the field may never be drilled because it extends under valuable city property. The oil in that portion of the Wilcox will move up dip to areas of low pressure and tend to refill depleted sands. How much oil will be recovered in this way is impossible to estimate, but it may bring total production up to as much as 200,000,000 bbls.

This condition is possible because the Wilcox sand is quite porous, perhaps averaging 30 per cent voids. With great thickness, high porosity, high viscosity oil and a high-pressure water body lying adjacent to the oil around the edge, it is reasonable to assume that a considerable quantity of the oil in the undrilled portion of the Wilcox sand will move toward areas of lower pressure and be recovered there.

Even under such favorable conditions the total recovery from the Wilcox sands in the Oklahoma City Field will not be great enough to repay the operators for their total investments. Many leases have already recovered enough oil to return capital investment and with controlled operation others will pay out nicely, but if there is any tendency to withdraw oil at high rates it is feared by many that water will enter the formation and cause lots of trouble and reduce the quantity of oil recovered by a very appreciable amount.

Few Wells Needed

To return to a discussion of the new wells in Sections 22 and 26, it seems that conditions there will not justify the drilling of a great number of wells. It is quite probable that this area has already yielded a portion of its oil to wells in the zones to the north and south, where the Wilcox sand has been producing for a considerable length of time and where areas of lower pressures have been established.

Gas-oil ratios in these new wells was about normal, and this may indicate a drainage of gas from this area also because wells on this eastern contact edge should under normal conditions have higher gas-oil ratios, because part of the well's penetration should be through the upper portion of the edge of the sand where gas would naturally accumulate.

In connection with gas-oil ratios the following copy of a portion of a report made by a committee of geologists and petroleum engineers on gas conservation and water intrusion in the Oklahoma City Field, dated March 11, 1931, gives some idea of conditions in this field:

"Based on information furnished by various members of the committee. (Note: Committee was composed of company representatives) the gas-oil ratio of a majority of oil wells in the Oklahoma City Field was found to be as follows, and are believed to be fairly representative of conditions in the Oklahoma City Field:

Gas-oil ratio—	No. of wells	Bbls. oil potential	Gas volume M.C.F.
Less than 1,000	167	3,158,684	2,130,650
1,000 to 2,000	115	1,290,282	1,707,159
2,000 to 3,000	58	533,762	1,297,766
3,000 to 4,000	41	394,554	1,366,288
4,000 to 5,000	18	118,374	517,350
5,000 to 6,000	14	106,736	584,545
6,000 to 7,000	14	103,033	668,269
7,000 to 8,000	15	92,915	678,325
8,000 to 9,000	4	18,846	164,756
9,000 to 10,000	12	67,209	639,590
10,000 to 20,000	31	92,933	1,315,656
Above 20,000	50	55,028	3,038,612

"The above table shows that there are 50 oil wells producing with ratios over 20,000 cubic feet of gas per barrel of oil. In addition to this number, there are 14 wells producing from the Simpson formation that have been temporarily classed as gas wells by the Corporation Commission on account of their relatively large volumes of gas and small oil production. This makes a total of 64 wells producing from the Simpson formation with gas-oil ratios in excess of 20,000 cubic feet per barrel.

The committee is of the opinion that wells producing from the Simpson formation and which are now classed as gas wells should be reclassified by the Corporation Commission as oil wells."

Water Conditions

Very recent reports show that there are 139 Simpson wells making water, of which 21 have been plugged back. Of the 118 still producing, 41 are using gas lift to assist in handling the water. There are 10 wells in this group in the Wilcox sand and it does not contain records of Arbuckle lime wells, all of which are now classed as water wells and only a limited number of them will make sufficient oil to permit their operation.

While first reports seemed to indicate that there could be profitable drilling of a large number of wells in this southwest section of the Oklahoma City Field, later facts do not bear out these assumptions, and it would be foolish to sink a lot of money into the drilling of wells there because from all data now at hand it would seem very improbable that the capital invested can be returned.

Small tracts do not supply sufficient drainage area around the well to permit of enough oil being recovered to justify the expense of drilling. It would be an ideal place to combine acreage and drill a very limited number of wells in the best portions of the structure to recover the oil.

This portion of the Wilcox sand presents another condition that is very difficult from the normal sand in other parts of the field. That is the lack of porosity. When this sand was exposed to erosion it seems that water carried into it a large amount of material in suspense that was precipitated and filled the pore space. This will make recovery per acre low and be a further reason against close drilling.

At best the Wilcox sand zone in Sections 22 and 26 is not over three or four locations wide. Beyond this width it is anticipated that wells to the west will drill directly into edge water.

General Conditions

In other portions of the field production goes on much as usual, with a little more demand for the oil for the month of May. With careful operation many of the leases will pay out, but if there is unrestricted withdrawals of oil the bottom hole pressures will be depleted and gas will come out of solution, and this will reduce the total amount of energy available to produce the balance of this crude. It will also set up conditions of low pressure in the oil sand adjacent to areas of high pressure in the water zone and this may result in flooding. If water breaks into this soft Wilcox sand it will be very difficult to handle.

Some of these wells have made as much as 20 per cent sand when produced at high rates. Actual sand brought to the surface at some wells indicates that cavities exist underground that are the equivalent to a cylinder 9 feet in diameter and 130 feet deep. How much actual sand has been produced with the oil and how great are the voids or cavities in this Wilcox zone are unknown, but enough of the general condition is known to make it imperative to recommend careful and cautious operation to prevent water breaking through. If this precaution is not followed and water does break through into these large cavities it is very hard to predict the future for the field, for repairs would be difficult if not impossible.

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PAN AMERICAN FOREIGN CORP. INCORPORATED IN DELAWARE

By A. E. Mockler

NEW YORK, May 9.—Official announcement by the Standard Oil Co. of Indiana that sale of the foreign properties of its subsidiary, Pan American Petroleum & Transport Co., to the Standard Oil Co. (New Jersey) has been "practically concluded," discloses that the purchase price involved in the deal is $146,000,000, as contrasted with previous reports varying from $100,000,000 to $115,000,000 as the purchase price. Of this total, $50,000,000 is to be paid in cash, over a term of four years, and the balance in stock of the New Jersey company.

The announcement by President E. G. Seubert, of the Indiana company, said:

"The transaction is being carried out on the basis of book value of the Pan American foreign properties as of April 30, 1932, estimated at $146,000,000. The Jersey company's agreement with Standard of Indiana is to pay for these properties $50,000,000 in cash over a period of four years and the remainder, estimated to be $96,000,000, in shares of Jersey stock at their book value as of December 31, 1931. Standard of Indiana has agreed to transfer its interest in the foreign property, amounting to about 96 per cent, on this basis, and it is understood that all other Pan American stockholders will have an opportunity to sell on a basis not less favorable to them.

"The net result to all Pan American stockholders will be that they will have an opportunity to accept for their interest in the foreign situation $14.65 in cash and more than one-half share of Jersey stock for each share of Pan American stock now held by them. They will have remaining an interest in Pan American's domestic properties amounting to approximately $10 in cash or its equivalent, and approximately $14 book value of additional assets per share.

"Book values were agreed upon as the basis for the deal as being fairer to both parties than an attempt to arrive at market values under the present disturbed conditions.

"Standard of Indiana will receive out of the total consideration approximately $48,000,000 in cash and 96 per cent of the Jersey stock payment.

"The deal will materially improve the company's position in relation to the world trade in oil. The foreign properties in which it has been interested have been dependent in large part upon outlets in the United States. If the threatened tariff on oil should be adopted they would be obliged to seek additional outlets abroad in competition with established companies and at great cost. Standard of New Jersey, on the other hand, is in position to provide foreign outlets by a mere adjustment in flow of business. By exchanging its interest in the Pan American foreign properties for an investment in the Jersey company Standard of Indiana will insure itself against loss through tariff developments and put itself in position to share not only in any benefits which the Jersey company may gain from the transaction, but also in the earnings of that company's entire business, both foreign and domestic.

"Pan American will organize a new holding company and transfer its foreign holdings to the new corporation (Pan American Foreign Corp.) in exchange for its entire capital stock. This stock in the new corporation Pan American will distribute to its present stockholders on a share for share basis.

"When this formality is carried out, each Pan-American stockholder will hold one certificate representing his interest in the foreign properties and one representing his interest in the domestic properties, in place of a single certificate which previously represented both. He will then be in position to exercise his own judgment as to acceptance or rejection of the offer which the Jersey company has agreed to make to buy all of the stock in the new corporation. Standard of Indiana's agreement to sell its stock assures the Jersey company of at least a 96 per cent interest in the foreign properties.

"Cash and marketable securities amounting to approximately $35,000,000 and properties of a book value of approximately $48,000,000 will remain in the Pan American domestic set-up in which the Indiana company retains its full interest.

"The domestic business will receive its petroleum supplies from the same sources if a tariff is not adopted. If one is adopted, supplies have been arranged for from domestic sources."

Pan American Foreign Corp. has been incorporated in Delaware with capital of 1,100,000 shares of Class A $1 par value stock and 3,000,000 shares of Class B stock, also $1 par. The new company represents the holding company for the foreign oil properties of Pan American Petroleum & Transport Co. and practically all of its stock will go to Standard Oil Co. (New Jersey) under terms of the deal between that company and Standard of Indiana.

The New York Stock Exchange has received notice from Pan American of a proposed change in the par value of its common and Class B stock from $50 to $5 a share. Each present share will be exchanged for one new share of a single class of stock shortly to be issued. This change results from the sale of Pan American foreign properties.

Clearing up of the Pan American deal, it is reported here, will necessitate further revisions in the merger agreement being drawn up between Standard Oil of New Jersey and Standard of California. Surveys of the two companies, preliminary to consolidation, are reported to have been concluded, but Jersey's acquisition of Pan American's foreign properties changes the situation somewhat. It is expected that the precedent set in the Jersey-Indiana deal will be followed in the Jersey-California merger, and that the consolidation will be effected on a book value basis for the respective stocks, and not on market value as has been the case in principal important oil company mergers in the past.

Reports recently circulated in financial circles that the deal between Standard Oil Co. of Indiana and Standard Oil Co. (New Jersey) for the acquisition of Pan American foreign properties was the entering wedge for a bringing together of the Jersey and Indiana companies were denied by President Seubert, of the Indiana company.

ADDRESSES TO SCOUTS BY PRATT AND SEALEY

HOUSTON, Tex., May 9.—When the National Oil Scouts Association of America opens its ninth annual convention here Sunday it will be the first time the association has convened on the Gulf Coast. Registration will be under the direction of George E. Robinson, chief scout of the Pure Oil Co., Gulf Coast division.

According to the revised program completed last week there will be talks by Wallace E. Pratt, director of the Humble Oil & Refining Co., and Fred C. Sealey, assistant general manager of production, South Texas district, The Texas Company. Mr. Pratt will talk on "Why Is a Scout."

Committees of which L. S. McGee, Humble Oil & Refining Co., Houston, and vice president of the association, is chairman of the general arrangements program, have spent much time on preparation of the program. Other members of the general committee include Harry M. Sample and Raymond C. Willis, Magnolia Petroleum Co.; George C. Francisco, Sun Oil Co., and George E. Robinson, Pure Oil Co. Others having charge of special arrangements include Elton Rhine, Empire Gas & Fuel Co.; L. V. Manry, Humble Oil & Refining Co.; Hill Adams, Republic Production Co.

AMERICANS EXPECTING SHARE IN IRAQ EQUIPMENT ORDERS

NEW YORK, May 9.—Iraq Petroleum Co. has not yet awarded contracts for pumping equipment, valves, tanks, etc., and American manufacturers expect a fair share of this business. Present construction plans, it is understood, call for pumping stations approximately every 50 miles along the line, which would make a total of 24 pumping stations. The final links of the line, however, will not require any boosting. At the French end, the hydrostatic pressure in the line will be so great that present plans call for the use of but 8-inch pipe in the final link, to Tripoli. Inclines of approximately 1,000 feet will be surmounted by the line at some points along the route with a rise to approximately 3,000 feet as the line nears seaboard. Up to the time of writing, orders for only 10 and 12-inch pipe have been awarded, leaving the necessary 8-inch pipe still to be bought. The pipe to be used will be seamless pipe with the ends bevelled for welding.

While it is reported that, since completion of surveys and other preliminary work, the actual building of the line is not unduly difficult from an engineering standpoint, the diversified, and at times conflicting, interests controlling the project make actual progress extremely slow.

On the one hand, the French interests for the past few years have been insistent upon speeding up the pipe line construction, while the British, Dutch and American interests, mindful of the effect of Iraq's production on world market stability, have just as resolutely held out for delay in development work. French insistence, backed up by the support of the Iraq government, has been largely instrumental in forcing the issue to the point where the agreement for completion of the line in 1935 was entered.

Unless some rather thorough plan for world rationalization can be worked out in the meantime, completion of the Iraq pipe lines will further demoralize world markets. Iraq crude will be a direct competitor with Rumanian and Russian petroleum, and, to a lesser extent, that produced in the United States, while the effect of Iraq's development will also be felt by Polish and German producers, as well as those in South America and other parts of the world.

With all of these other world factors, with the exception of those controlled by American companies and the Royal Dutch-Shell, apparently determined to continue to expand producing and refining operations regardless of world price levels, the addition of Iraq's production will intensify an already serious situation. Both Russia and Rumania have important marketing outlets in France and England, as well as in the dominions and colonies of those two countries, which will be endangered when French and British refineries begin to receive regular shipments of Iraq crude. If Russia and Rumania repeat previous tactics, this will mean a renewed price war for control, or at least continued participation in, these markets, the backwash of which will inevitably affect American oil companies.

Native labor will be largely utilized in the actual construction of the line, natives having been apprenticed to various trades and trained by Iraq Petroleum's organization in that country during the past few years. The actual work of laying the line will be physically difficult, as the pipe line system will run largely over exposed desert. Survey parties for the line, in their forays over the projected pipe line route, were protected by armored cars and fighting planes of the Royal Air Force. Just how much danger actual construction parties will face in their work on the desert is problematical, although it is expected that the British and French will supply armed escort parties for the work gangs. Unless the territory the line traverses is thoroughly pacified within the next several years, it is expected that protection of the various pumping stations, under actual operating conditions, will call for further defensive measures.

Upon completion, the line will have annual capacity for running approximately 30,000,000 bbls. of crude. Present production in Iraq is approximately 100,000 bbls. per month, but field work is being continued, and it is expected that little difficulty will be encountered in building up production to the line's capacity upon completion of the pipe line project.

A number of American pipe line workers are endeavoring to "connect" with the Iraq construction project, but thus far relatively few pipe liners from the United States have been taken on.

ROCKY MOUNTAIN RUNS

Average daily pipe line runs from fields in the Rocky Mountain territory for the week ended May 7 follow:

WYOMING	
Salt Creek	21,990
Badger Basin	50
Big Muddy	1,660
Byron-Garland	380
Dallas-Derby	580
Elk Basin	560
Ferris	20
Frannie	2,020
Grass Creek	2,030
Hamilton Dome	720
Hudson	440
LaBarge	1,100
Lance Creek	90
Lost Soldier	2,500
Midway	70
Oregon Basin	810
Osage	950
Pilot Butte	30
Rock River	1,790
Poison Spider	90
Teapot	10
Total Wyoming	37,990
MONTANA	
Buckley-Border	640
Cat Creek	890
Dry Creek	480
Kevin-Sunburst	3,350
Lake Basin	60
Pondera	1,040
Total Montana	6,460
COLORADO	
Florence	360
Fort Collins	870
Iles	920
Moffat	680
Orchard	330
Rangely	90
Tow Creek	280
Total Colorado	3,430
NEW MEXICO	
Rattlesnake	672
Hogback	460
Table Mesa	74
Artesia	498
Cap Rock	985
Hobbs	30,510
Jal	864
Lea City	2,012
Eunice	455
Texas Pacific	95
Total New Mexico	36,625
Total Rocky Mountain area	84,505
Total previous week	85,848
Difference	1,343

LINE IN STRATMAN POOL

Eldorado Refining Co., of Eldorado, Kans., expects to lay a pipe line from the Aylward and others' lease in Section 1-17-10w, in the Stratman Pool, in Ellsworth County, Kansas, to a loading rack at Holyrood. Oil will be shipped out in tank cars to the refinery at Eldorado. The oil is being purchased at the present time by Stanolind Crude Oil Purchasing Co. The Eldorado Refining Co. owns an interest in the property. The pipe line will be approximately 2 miles long and will give the area its second outlet. This area has been curtailed owing to the lack of pipe line outlets and when the new line is completed it is expected considerable more crude oil can be moved out of this field.

TO CONNECT EAST TEXAS WELLS

DALLAS, Tex., May 10.—At a meeting of East Texas pipe line representatives at Dallas last night companies agreed to connect all unconnected wells, approximately 50. This overcomes a serious situation and removes distress oil from the market in East Texas.

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OUT OF THE RED

The crude price advance of April 1 has been justified by its effects. The improvement in conditions has been marked. The entire outlook has been changed. Sentiment in the industry is so much better that it is becoming a rallying point for a revival of hope and confidence.

Better prices for products are enabling oil companies to move into the black from the red. For the first time in fourteen months one company will be in the black for April.

Could there be better proof of the soundness of initiating a price structure through an advance in crude? It would have been impossible to secure a solid front on any movement through refined products because there was no place to start.

The crude advance was initiated at the moment when it was most needed. Producers who had been induced to co-operate in curtailment to stabilize the market were asking "What's the use?" There was danger of undoing everything that had been accomplished.

Estimates of potential production were so inconclusive that they varied by millions of barrels. As one commentator said: "Present day statistics remind one of the balance sheets we have all reviewed for 1931. The answer comes first and the figures are manipulated to give that answer."

The wide differences of opinion justified that criticism and engendered doubts that menaced the co-operative spirit of the producing industry.

As has been said it was self-evident there was no remedy for the millions of red figures in 1931 due to low prices in yet lower prices. Other businesses and industries had reached the point where it was plain there would have to be increased prices if the industry was to break even.

Yet, as one observer said, "this was counteracted by the selling fool who measures his accomplishments in tons or gallons. The so-called executive, choosing the easiest alibi to maintain himself, accepts the fool's advice and goes his merry way."

For no reason at all, many, if not most, operating heads in the oil business have allowed themselves to be influenced by the notable decline in automobile registrations. Why, it is asked, should this situation keep an oil company from breaking even, or better, enjoying a profit on what it sells, unless it gives its goods away?

It is interesting in this connection to note the statements of presidents of some leading companies in their annual reports during the past week or two.

President Henry M. Dawes of the Pure Oil Company said:

"It is the general opinion in the industry that the prices which prevailed in 1931 were abnormally low and the averages for the previous years confirm this. General conditions would seem to require the maintenance of a higher price scale during the current year. Recent advances in the price of crude will have the general effect of narrowing the margins to the other branches of the industry and give them less leeway for the indulgence of wasteful practices."

President Edward G. Seubert of the Standard Oil Company (Indiana), said:

"Had prices of motor fuel and other products continued at profitable levels the oil industry would have been enabled to achieve earnings in 1931 nearly as satisfactory as those of 1930 and to serve industry in general as a stabilizing force against the main current of the depression.

"Determined to enlarge their volume of business at any cost, many marketers resorted more than ever in the past year to unjustifiable reduction of prices of their products. This company held to the rule that it would sacrifice gallonage rather than meet competition at ruinously low levels."

President J. C. Van Eck, of the Shell Union Oil Corporation said:

"It is imperative that a rational plan should immediately be evolved to bring production of both crude oil and of products within the limits of consumption to eliminate the constant menace of excessive stocks and thus to check the destructive competition which results from oversupply. The unsound conditions existing within the industry could only in part be attributed to the general depression prevailing in the country."

Crude producers had done their part but low prices for crude widened the margins for marketing excesses. One need for a better price for crude was to check those abuses.

It has been demonstrated that an improved crude structure can strengthen the refined market just as it has been shown so often that a weak crude market weakens the gasoline structure. They stand or fall together.

With practically every company report emphasizing that low prices were the cause of millions of losses last year the industry is setting itself to apply the obvious remedy—better prices.

It is illustrated in the conference in New York over the foreign market situation between the Russians and the other exporters.

Russian competition and Rumanian overproduction have demoralized markets in Europe in the past year. Russian exports were primarily for obtaining credit abroad to buy foreign equipment needed for the Five Year Plan of industrial development. Price cutting was the weapon used. But the world depression and the fall in exchange has so reduced the Russian returns while at the same time Russia needed oil for its home development that the time has come to listen to reason.

As the situation now presents itself to Russia it has become a question whether by giving up price-cutting competition abroad and limiting its exports it can obtain the same money for less exports and have oil for needed home use in tractors and transportation.

Successful negotiations with the Russians at New York will pave the way for world stabilization since doubt about the Russian attitude has been the main obstacle to understanding. Foreign comment when the previous effort was made to hold a world oil conference that America needed to stabilize its crude production first is no longer applicable.

That has been accomplished so well that not even the defeat of the Sharkey bill in California threw the industry off the track. The necessity of curtailment for self preservation is too thoroughly understood to be endangered if producers are assured living prices.

With the domestic market getting out of the red and prospects for stabilization of export prices, the oil industry is in a fair way of real recovery, based on the sensible plan of selling only for profit and refusing to give away its products in a mad scramble for volume in losses.

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DRESSER COUPLINGS DOMINATE

Oklahoma Gasolines Continue Steady

Buying First of Week Prevents Price Decline. Buyers Find Limited Offerings of All Grades of Fuels

By C. O. Willson

The refinery gasoline market in Oklahoma (Group 3) stiffened the first of the week following a reactionary trend the latter part of last week. This indication of underlying strength and scattered price advances in all grades of fuels were the outstanding developments of the week in the Oklahoma market. The remaining products for the most part were unchanged in market position when compared with conditions prevailing a week ago.

Slow gasoline buying the first few days of May resulted in some spot material being offered in Oklahoma and other Mid-Continent points from one-fourth to one-half cent under the 4¾-cent quotation for low octane U. S. Motor gasoline effective the latter part of April. Some resale material was offered as low as 4¼ cents. The weakness changed to strength when several refiners again placed orders both for immediate movement and delivery over the month. This buying served to absorb some low priced material coming largely from inland Texas plants. Several hundred cars were purchased for the month and it is understood that additional business will be placed by refiners before the end of May. On Monday and Tuesday, the firmer market served to bring additional buying from jobbers both in the spot market and on contracts.

Considerable interest is being manifested by refiners in the negotiations now under way to improve foreign markets. This development is explained elsewhere in this issue. The recent advances in gasoline tank car prices have been general in the domestic market east of the West Coast states. However, very little change has been reported in export prices reflecting a condition in which the dumping of Russian and Rumanian gasoline had practically excluded refiners in this country from participation in new business. Prevailing prices on gasoline for export movement at the Gulf Coast are practically on a parity with those prevailing in Oklahoma although in a healthy market situation the coastal prices would be at least 1½ cents higher.

Even with the low prices, export companies have had their offers to sell constantly shaded with quotations by European refiners. The fear has been expressed that this situation threatened the continuation of domestic advances. Should conditions in the foreign markets be improved it is probable that the gasoline movement from this country would improve and price levels be established in line with the domestic market. As one phase of this situation, it is pointed out that an orderly foreign market no doubt would provide additional outlets for natural gasolines and this would provide a market for Mid-Continent production which continues to be a drug on the domestic market. The troubles with natural gasolines started last year when exports declined and Gulf Coast and foreign buyers reduced their purchases of both the regular and stabilized grades from Mid-Continent manufacturers.

Fuels Strong

There has been additional evidence during the week of the strength in fuels ranging from the low gravity fuel oils to the best grades of furnace oils. This strength comes at a time when the season of maximum consumption is over and ordinarily, weakness would be expected.

The strength in the fuels is due to the limited offerings by refiners. Buyers who endeavor to line up their supplies several weeks in advance of the fall consuming season have found that refiners in the Mid-Continent have little to offer either for spot delivery or contract movement. Those who have made a study of the situation, are in agreement that a tight market in the better grades of fuels is in prospect over the remainder of the year. Curtailed crude oil runs to stills and expansion in cracking facilities are responsible. The average refiner when he reduces his crude runs to stills maintains his normal cracking operation. In fact, in many cases, the cracking operations have been expanded in order to offset with cracked gasoline what has been lost in the production of straightrun gasoline from the crude oil.

The relatively high crude oil prices in relation to tank car gasoline prices and the demand for high antiknock gasolines have emphasized the desirability of

REFINED MARKET BAROMETER

Refinery gasoline prices were advanced for domestic movement in eastern refining areas during the past week with only minor changes in quotations in other areas. An improved demand for motor fuels and oils was reported in several sections. Natural gasolines continue slow with the stabilized grades of low vapor pressures selling under the refined market. Reports indicated a decline in the demand for kerosene, tractor fuels and furnace oils but refinery prices on the whole were unchanged No important changes were reported in heavy fuels which were generally firm in price. Cylinder stock prices were again advanced at eastern refineries with improvement reported in both the domestic and export demand. Wax prices were unchanged.

East Coast—Refinery gasoline prices on all grades advanced one-half cent for domestic movement. Expect improvement in export demand. Kerosene strong. Advance in bright stocks features lubricating market. Uncertainty regarding tariff continues to be reflected in unsettled fuel oil market. Furnace oil and gas oil business quiet.

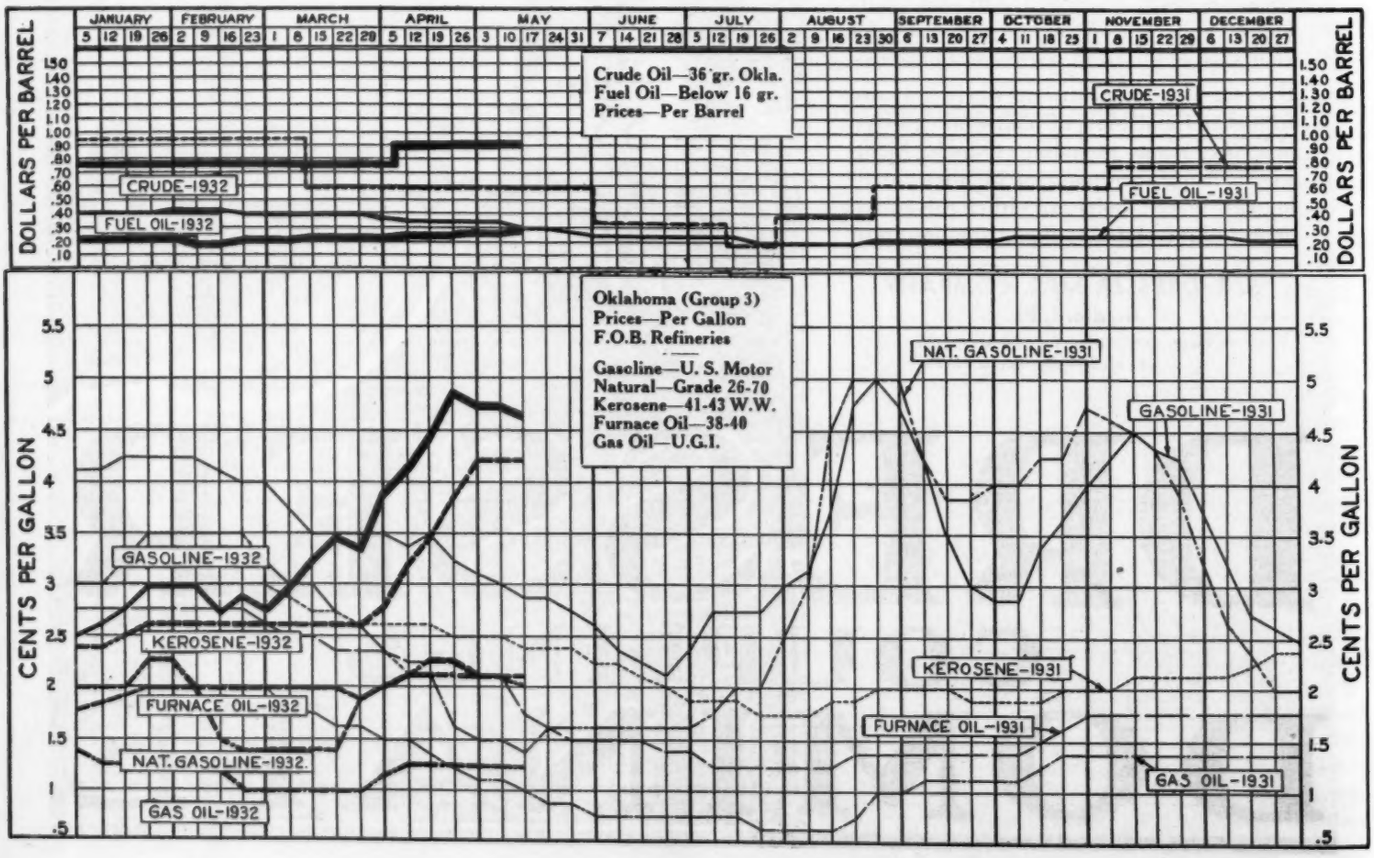
Mid-Continent—Gasoline market firm first of week after weakness of previous week. Kerosene demand less active but prices firm. Strong undertone in fuel oil, gas oil and furnace oil market except for high cold test grades. Lubricants firm.

Chicago—Gasoline easier due to increased offerings from Mid-Continent. Consumer demand for gasoline improves. Special naphthas spotted. Kerosene firm. Fuels and distillates firm.

Pennsylvania—General advances in gasolines and cylinder stocks. Kerosene strong.

Gulf Coast—Market generally steady. Less price cutting reported in pale and red oils.

California—Market on several refined products unsettled due to uncertainty regarding crude oil situation.



maximum cracking capacity. Refiners who lost money on their skimming operations have been able to break even or show a profit due to the better situation in their cracking operations. Even if this relative situation between the cracking and skimming stills did not exist, many refiners would continue to expand their cracking stills in order to secure the high octane gasolines now required by their marketing departments to keep in step with competition based on quality of motor fuels as well as price.

Cracking Expands

The net result of this tendency to emphasize cracking in the refining operations has been increased yields of gasoline at the expense of all other products except lubricating oils. There are now several refineries in Oklahoma and other Mid-Continent areas producing around 70 per cent gasoline. This yield covers straightrun and cracked gasolines but not natural gasolines bought from manufacturers. With a 70 per cent yield of gasoline, refinery losses including fixed gas will run around 10 per cent leaving only 20 per cent for the remaining products. This 20 per cent would include in some cases a small yield of kerosene although a few refiners are leaving all of this cut from their crude oil, in their cracking stock. When a kerosene cut is taken the only other liquid products are a small yield of recycle distillate and a heavy residuum which is often only suitable as plant fuel due to the high viscosity and presence of fixed carbon. In some nonresiduum operations, the only products are gasoline and coke.

With this trend, it is apparent that the supply of fuel oil, gas oil and distillate cuts has either been greatly reduced or eliminated entirely. With the completion of cracking units now under construction and those planned before the end of the year it is certain that this condition will become more important as a market factor. A majority of refiners are now in a position where their railroad and other contracts will take all of their fuel oil output and their overhead cuts of distillate will be needed by their own furnace oil trade.

On the consumption side the industrial and public utility demand for fuel oils has been slow due to business conditions. Low rates on industrial natural gas has also materially reduced the demand for petroleum fuels in some of the larger cities including Kansas City, St. Louis and Chicago, formerly large consumers of fuels. With a return to more normal business conditions, the demand for fuels outside the sections served by natural gas will improve and it will then be more apparent how limited the supply has become.

It is in the furnace oil end that most concern is expressed by buyers. This demand, according to those in a position to know, has held up remarkably well over the past two years and it is believed that the demand for the 1932-1933 season will be at least as great as that which has just closed. It is apparent that buyers are already disturbed as to where the furnace oil material is to be obtained.

The answer to this situation is, of course, price. Should prices on fuel cuts advance sufficiently and a more equitable relationship be established between crude oil, gasoline and the fuels than now exists, enough refiners would increase their output of the latter to supply the demand. Prices on the heavy fuels, gas oils and furnace oils have been out of line in relation to gasoline over the greater part of the past two years and developments in both manufacturing and marketing assures that this gap will be closed. Some observers believe that not only will there be a quick return to a normal price relationship between the products but they also are of the opinion that the time is not far distant when heavy fuels and overhead distillates will be relatively higher than they ever have been in recent years.

Gasoline and Naphtha

The low octane U. S. Motor gasoline was quoted to the trade the first of the week at a low of 4⅝ cents with several of the larger refiners continuing to quote 5 cents for low octane, 5⅜ cents for 57-65 octane and 5⅝ cents for premium octane material. The spot sales reported during the week in the grades ranging from 400 to 350 endpoint showed the lack of interest in this material unless some exceptional octane rating is guaranteed by the seller. The 390 to 350 endpoint grades were especially dull, selling around 5 cents a gallon.

Refiners with good blending naphthas have no trouble selling their material at U. S. Motor prices. The low prices for natural gasoline continue to make blending operations attractive.

Natural Gasolines

Natural gasolines have failed to show the price improvement expected by many of the manufacturers. The 26-70 grade was still available in Oklahoma and Kansas on Tuesday at 2 cents and the high vapor pressure sold at 1⅞ cents. The 18-55 grade was selling at a low of 2½ cents. There are no large quantities of these grades available on the spot market and in the opinion of the trade any increase in buying will be reflected in higher spot prices.

Eleven-pound material was sold during the week as low as 3¾ cents but the grades under 10 pounds generally brought a low of 4 cents.

Other Products

Kerosene prices were unchanged during the week despite the belief of both buyers and sellers that the strong market for these products has ended for the immediate future at least. Tractor fuel and furnace oil quotations are unchanged with little buying.

Fuel oil prices have advanced to a low of 30 cents for the low gravity grades. Sales of 20-24 material were reported as high as 45 cents.

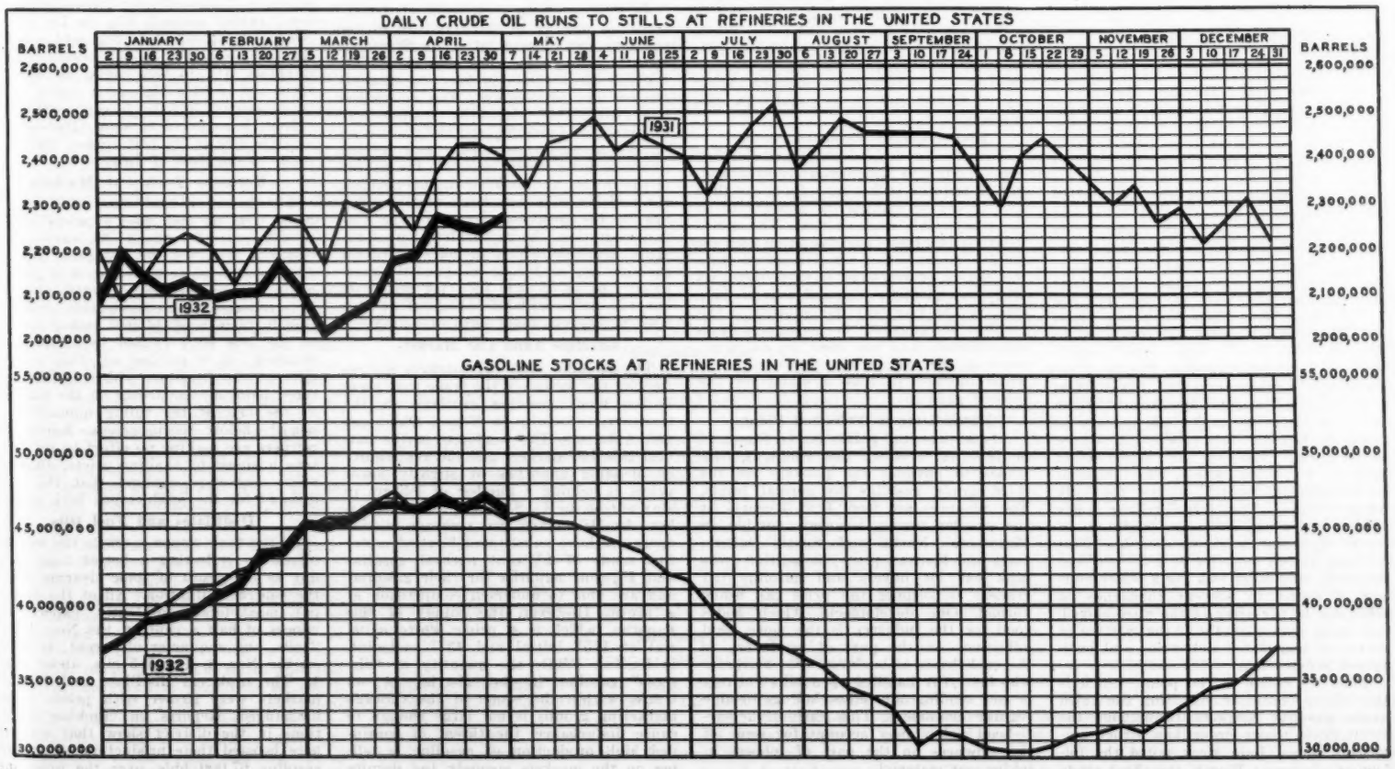
Refiners are optimistic regarding the manner in which the recent advances in bright stocks are being maintained. Finished motor oil quotations are also generally higher. Wax prices are unchanged with few new inquiries or purchases.

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending May 7:

	Week ending May 7, 1932				Week ending April 30, 1932				Week ending May 2, 1931			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	436,000	6,798,000	6,137,000	100.0	443,400	7,367,000	5,743,000	100.0	455,000	8,453,000	8,027,000
Appalachian	91.8	93,000	1,740,000	1,212,000	91.8	103,700	1,819,000	1,137,000	93.8	77,600	1,772,000	1,203,000
Indiana, Illinois, Kentucky	98.9	290,700	6,401,000	4,064,000	98.9	310,200	6,515,000	4,031,000	97.5	333,000	6,191,000	3,589,000
Oklahoma, Kansas, Missouri	89.6	231,200	3,904,000	3,242,000	89.6	233,400	3,764,000	3,215,000	89.4	279,400	3,650,000	4,017,000
Texas	91.3	536,400	8,168,000	8,714,000	91.3	536,000	8,151,000	8,601,000	91.9	552,400	7,976,000	8,701,000
Louisiana and Arkansas	98.9	152,300	2,149,000	4,726,000	98.9	151,300	1,997,000	4,538,000	98.3	159,600	2,305,000	2,299,000
Rocky Mountain	89.4	39,700	2,060,000	641,000	89.4	45,300	2,021,000	622,000	93.1	49,900	1,847,000	624,000
California	96.7	404,400	14,401,000	95,713,000	86.7	452,400	14,769,000	96,024,000	98.8	492,400	13,419,000	98,977,000
Total United States	95.1	2,183,700	45,621,000	124,449,000	95.1	2,280,700	46,403,000	123,911,000	95.7	2,399,300	45,613,000	127,637,000
Texas Gulf Coast	99.8	431,100	6,568,000	5,945,000	99.8	436,600	6,596,000	5,819,000	100.0	410,900	6,798,000	6,205,000
Louisiana Gulf Coast	100.0	104,700	1,992,000	3,992,000	100.0	110,000	1,853,000	3,849,000	100.0	104,700	2,140,000	1,300,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) gas and fuel oil stocks.



All data based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above table.

Too Much Gasoline in Chicago Area

Improved Weather Increases Sales but Excessive Stocks and Lack of Uniformity in Market Situation Are Deterrents

By Robert C. Conine
Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, May 9.—The weather, at least, appears more stabilized and probably this week the service station attendants who have watched the number of two and three-gallon purchases increase to record proportions will regain a little confidence in the buying power of the motoring public. Consumer demand for gasoline has not been at all what marketers and jobbers anticipated, and the more pessimistically inclined contended that automobile owners had tightened their purse strings. However, the first survey of the year on the probable week-end motor traffic indicated that on May 7 and 8 nearly 300,000 automobiles took the roads and highways of Chicagoland. Beginning Saturday morning the streets in the downtown and uptown sections presented a sight to gladden the heart of any marketer who was beginning to wonder when the jobbers would resume an active buying position.

Intensive drives on the part of the police in the matter of state and city automobile licenses, it appears, has not had the expected effect of removing many of the cars from circulation. The city has levied its toll of $300,000 for service station licenses, and at this writing there is only one more hurdle for Chicago motorists. About 200,000 automobiles in the city are not kept in garages, and cause, the police say, traffic congestion during the hours between 3 a. m. and 6 a. m. This is a strange hour for heavy traffic but this consideration has not deterred the police from having "tickets" printed and unless the action is halted these 200,000 motorists may add more than $200 a year to their car upkeep expenses, or they may sell their automobiles.

Gasoline Stocks Threaten Markets

While most of the gasoline produced is reported to be in strong hands, there are good indications that too much of this material is being held by refiners who are not in a position to wait for business to pick up without stimulation of absurdly low quotations. It's the old story of the irresponsible refiner who unloaded his surplus on the larger refiners who sought to "clear up" the markets. The larger refiners have been buying gasoline, and now, so they say, the little refiner has filled his tanks again and has sent tank cars out consigned to himself. The terms "large" and "small" refiners are used advisedly. The small refiner is one whose overhead is comparatively negligible, who operates when he can buy crude oil under the market or when he has his own production, whose salesmanship consists in underselling others. In other words, the physical predication of "small" is not the only sense intended. The "large" refiner is one whose operating expenses continue on about the same level whether his plant is going at full capacity or a 30 per cent capacity, who must look for a wider margin of profit to prevent thousands of additions to the army of the unemployed, and upon whose condition the welfare of scores of nonrelated industries and businesses is dependent.

Thus we arrive at the point, which is that the program of stabiliing the third grade gasoline markets throughout the territory in short order has struck numerous snags. Last week noted the following advances: Peoria, the third grade service stations and tank wagon postings were advanced 3 cents, to 15 cents; at Davenport, Rock Island and Moline, the cut price competition material was advanced 1 cent, to 11.9 cents; on May 6, the third grade tank wagon and service station postings at Grand Rapids were advanced from 13.8 to 14.6 cents, while the regular grade was advanced from 15.8 to 16.6 cents. At Milwaukee the third grade prices were advanced from 7.5 to 8 cents. However, a check over the 11 states in the territory reveals that in the smaller localities, numbering over 700, the price adjustment has been steadily downward since January 6. In Chicago several independent marketers have not hesitated to say that all of the trackage station operators are waiting for the major companies to advance their third grade gasoline markets so that they may undersell. The cut price stations, it appears, have lost considerable business along with the larger operators during the past two months when inclement weather cut down consumption. Some of the trackage station operators feel that their loss in gallonage represents a gain in the gallonage of their major competitors, and they are, it is said, waiting for an opportunity to build back their business with last year's tactics. It is not considered likely that Chicago will become the hotbed of price cutting that Detroit is. Jobbers from miles around Detroit drive their tank wagons into that city and buy gasoline at 9 cents, tax paid, making a tank wagon price of 6 cents, and deducting the 3.83-cent freight rate we have the price of 2.17 cents a gallon, Group 3. However, in Chicago, as elsewhere, the major refiners and marketers are not blameless. The records in the statehouse at Springfield show that these refiners provide a large part of the gasoline which finds its way into the trackage stations, and one major refiner actually provides the crude oil, six tank cars a day, for a district refiner who is underselling competition by a wide margin in gasoline and fuels. While there are no large trackage station organizations in Chicago, few are negligible. One of these has gasoline storage capacity of 85,000 gallons to supply his two stations.

Blue Gasoline Replaced Slowly

The uncolored third grade gasoline has been moving to the thousands of Standard of Indiana bulk plants for some time and should be making its appearance at the pumps this week or next. The movement to eliminate the dye from the cut price competition material resulted from the claims of trackage station operators that the gasoline was colored to hide defects. The fact that the coloring of the gasoline safeguarded the consumers from substitution was not used as an argument by the majors who appeared for a while inclined to take a stand for the colored gasoline.

Normalizing at Principal Points

At the principal points in the Standard of Indiana territory this company continues to advance the postings on the third grade gasoline to normal levels. The advances are from 1 to 3 cents. At the smaller towns, however, notably in Minnesota, North and South Dakota, Iowa and Kansas, price competition from tank car lot buyers and gasoline tax evaders is keeping the price far below normal. One development which bodes good for the industry is the more rigid adherence on the part of marketers to the cash basis of business. One marketer who last year handled open bills entirely is now sending out yellow ladings to nine regular customers. This cash-on-the-barrehead policy may account for some of the slowness on the part of jobbers in taking out material.

There is little doubt that the refined products markets are facing their most serious test this week. Gasoline tank car prices are slightly off, and some softness is appearing in the naphtha and kerosene markets. With the prices tending downward due to scattered offering of material below the current quotations, the jobbers may be expected to react in the customary fashion and hold out for further declines. Moderate refinery buying of gasolines and kerosenes continues, but there is less prospect of heavy movement in this connection as the result of continued overproduction on the part of refiners who have been offering distress gasoline. The large refinery buyers who have expressed their views on the situation, however, may change their minds and act to remove this low priced gasoline from the markets, especially if they can realize on freight differentials.

Majors in Belated Counter-Attack

The department stores, automobile supply houses and drug stores which have been selling motor oils as trade pullers, and possibly as profit makers, have finally been recognized as competitors. It may interest those of the "Pure Pennsylvania" lubricating oil group to test samples of lubricating oils so classed in the Chicago marts. One oil so classified is advertised as "sealed and guaranteed by the refiner," but the refiner's name is not on the carefully sealed can, and sells at $1.39 per 5-gallon can, or 6.95 cents per quart. Another "guaranteed" brand, not advertised as Pure Pennsylvania, is sold in quantities of 5 gallons for $1, or at 5 cents a quart. One of the better known refiners is conducting a 1-cent sale on its nationally advertised lubricating oils. A 3-gallon can sells for $2.67, and two of the cans are offered at $2.68, or at 11.16 cents a quart. Most of the larger marketers are coming out with a 15-cent lubricating oil to meet competition.

In Chicago district oil trade circles interest is waning in the activities of the senators and representatives in Washington, in spite of the fact that the industry has most cause to keep an anxious eye on the proceedings. The conviction has grown that the daily sessions are disconnected figments, and the restitution of the taxes on petroleum and refined products after their removal, the hiking of the tax on automobiles and accessories, the revision of a new basis and new figure in the proposed levy on pipe line transportation, the reconsideration of the Mills' schedule which includes a federal gasoline tax of 1 cent on domestic gasolines, and so on, are food for reflection but too nebulous and changeful at this time to suggest some form of action.

Gasoline Tank Car Markets

The gasoline tank car markets are reflecting the feeling in the trade that there is too much gasoline available in the territory, especially in Texas, Oklahoma and Arkansas. The weakness in the natural gasoline markets and the availability of blending naphthas at slightly lower prices is helping a number of jobbers to stay out of the U. S. Motor gasoline market. In Milwaukee two trackage station operators have substituted blended motor fuel made of 1⅞-cent natural gasoline and 4⅜-cent naphtha for their gasoline, and are able to undersell competition at a profit. However, the supply of this naphtha, which is a prime white material of 175° initial and 437° endpoint, is limited. While the quantity of "distress" gasoline in the district or on tracks within the scope of the Chicago marketing groups is not large enough to cause disturbance, the threat of continued high production of gasoline is telling on the markets strongly and despite the serious efforts of the marketers and refiners in the district to keep the markets steady, the prices have moved down an eighth of a cent for the entire list with the exception of the aviation grade material. At the beginning of the week, however, the indications were better and little is heard of the 4½-cent quotations which were being made last week from North Texas and Arkansas sources. The gasoline tank car markets Monday did not appear as settled as would be necessary to entice jobbers to relinquish their waiting policy, but increased movement of material points to added buying pressure due to heavier consumer demand.

Naphtha Tank Car Markets

The naphtha tank car markets, with the exception of slight spottiness in the blending materials, showed continued strength Monday. The higher prices which have been in effect in the gasoline and kerosene markets have served to deter refiners from emphasizing sharp cuts in their operations and for this reason the statistical position of the naphthas is sound at this time. Some products, classed as lacquer diluents and petroleum spirits, are selling under the ruling prices, but these materials do not meet specifications. The lacquer diluent, for instance, is offered at 8 cents, or half a cent below the low of the going markets, but this material has a high endpoint and because of its precipitating effect is available only to makers of cheap toys and similar users. The low priced petroleum spirits is offered at 3⅞ cents within a restricted zone. An encouraging sign is the return of several district refiners to quoting on the Group 3 basis. Most of the trouble in the past has been from differential shipping.

The naphtha tank car prices Monday were: 50-52 450 endpoint blending naphtha, 4⅜ to 4⅝ cents, down an eighth of a cent; cleaners' naphtha, 6¾ cents; lacquer diluents, both grades, 9 cents, an advance of one-half cent from last week's low; rubber solvent, 6½ to 7½ cents; Stoddard solvent, 6 to 6¾ cents; petroleum thinner, 4¾ to 5½ cents; V.M.P. naphtha, 5¼ to 6½ cents, an advance from last week's high of a cent; petroleum spirits, 3⅞ to 5 cents. Stoddard solvent is expected to show improvement as it is now in its best season which extends to the close of July.

Kerosene Tank Car Markets

The kerosene tank car markets continue firm at last week's prices of 4¼ to 4⅜ cents for the 41-43 water white material, and 4⅜ to 4⅝ cents for the 42-44 water white kerosene. A slight letup in kerosene demand is noted, although it is reported that considerable consumption in farm work is still looked for due to the late start caused by unfavorable weather. It is pointed out that a large part of the kerosene which is being offered more or less freely on the markets at the low of the ruling quotations is usually below specifications. Apparently refiners are making no effort to get kerosene business by shading prices, although some marketers contend that the peak demand for the product has been passed.

Distillates and Fuel Oils

In the tank wagon markets the heating oils were reflecting a better tone Monday as the result of some clearing up in the contract situation. All of the principal marketers confidently expect advances of half a cent on the Nos. 1 and 2 oils, and a quarter of a cent, at least, on the Nos. 3, 4 and 5 oils, about June 1. The tank car distillate and fuel oil markets were firmer with prices about unchanged. Reports on cracking operations in the district show that refiners here boosted their production of cracked gasoline 67,000 bbls. over the preceding week.

Manufacture of Natural Gasoline

Plant Operators Pay Attention to Molecular Weight

Natural gasoline plant operators are studying molecular weights today, according to an article appearing in the current issue of the Natural Gasser, of the Warren Petroleum Co. The item of molecular weight in connection with the viscosity of an absorbing medium circulated to pick up the gasoline vapors, is being tackled with renewed vigor, and is becoming influential in the designing of absorbers, stills and heat exchangers. Knowledge of molecular weights and viscosity enables the operator to cut the cost of construction and plant operation, through determination of the character of the absorption oil used. By using a better grade of circulating oil, operators are enabled to cut the charges for oil, by using a smaller amount, and they also make satisfactory savings in water and steam costs, as well.

Contamination of oil by sulphur compounds complicated the efforts of the operators in the Panhandle and West Texas areas. Much of the gas was found to contain crude oil mists, of high sulphur content, and as a result the low molecular weight absorption oil was changed by contamination to a highly viscous medium, with the result that the absorption efficiency of the oil was badly impaired.

Contamination became so rapid that operators found it necessary to change the oil frequently and clean out the entire circulation with steam or cleaning solutions. Failure to do this brought on increased high differentials in pumping the viscous fluid through the system, and, at the same time caused inefficient absorption. Cooling efficiency in the coils was lost and the increased pressure on the heat exchangers and preheaters made many breaks in the lines.

To avoid a shutdown for cleaning, Panhandle plant operators are using the method of redistilling a part of the circulating oil by bypassing a small part of the hot denuded oil to a fire still in a continuous redistillation process. The oil is condensed after distillation and returned to the lean oil vent tank, where it is agitated by live steam to prevent cooking. The still is shut down and dumped daily during the first part of the cleaning run, and, as the oil becomes free, the still is kept in operation for longer periods. The result of the operation produces oil that is almost as free of contamination as the original oil, with specifications similar to fresh oil.

After the oil in the system is once cleaned, it is found that it takes from three to five days each month to keep the system clean and the oil in good condition. One plant with 32,000 gallons of oil in the system, circulating oil at the rate of 1,000,000 gallons per day, required 60 days continuous run to clean up the oil, dissolve and clean out the heavy deposits of gum and sludge in the absorbers, heat exchangers, oil coolers, etc.

Plant operators find that the reconditioning of absorption oil is an essential requisite for efficient operation of an absorption plant. The method of continuously cleaning the absorption oil and thus decreasing the molecular weight of the oil is advocated by operators due to the fact that the plant is not shut down and also due to the excellent condition in which the oil is kept. There is a mechanical gain in the absorption throughput rate and an increased heat transfer effect obtained as a result of the cleaning out of the gums allowed to collect in the contaminated oil system.

ASSOCIATION'S ANNUAL MEETING TO BE IN TULSA NEXT WEEK

The program of the eleventh annual convention of the Natural Gasoline Association of America has been completed to include papers on subjects of unusual interest and importance. The convention will hold its opening meeting at 1:30 o'clock Tuesday afternoon on May 17 and will close at the end of the morning session on Thursday unless there are unfinished papers or discussion which will necessitate an afternoon meeting on Thursday. All meetings will be held at the Mayo Hotel in Tulsa.

The Natural Gasoline Supply Men's Association will again furnish the entertainment for those attending. The supply men will provide a luncheon at noon on Tuesday and Thursday and will leave those attending to form their own dinner groups at noon on Wednesday.

A stag smoker has been arranged to supply entertainment during Tuesday evening and on Wednesday night the annual dance will be held.

Officers of the Natural Gasoline Association of America are as follows: S. S. Smith, superintendent of natural gasoline department of the Shell Petroleum Corp., Tulsa, president; Emby Kaye, manager of the manufacturing department, Skelly Oil Co., Tulsa, vice president; O. C. Field, president, O. C. Field Gasoline Co., Los Angeles, vice president; G. M. Campbell, United Gas Public Service Corp., vice president.

Officers of the Natural Gasoline Supply Men's Association are as follows: A. W. Burket, Alco Products Co., Tulsa, president; W. D. Moorer, Moorlane Co., Tulsa, first vice president; A. V. B. Candler, National Supply Co., Tulsa, second vice president; E. P. Triphaus, Taylor Instrument Co., Tulsa, treasurer.

Ray E. Miller is secretary and in active charge of the activities of both associations. Headquarters of the association are located in the Wright Building, Tulsa.

Ray E. Miller

Secretary, Natural Gasoline Association of America and Natural Gasoline Supply Men's Association.

The following papers will be delivered at the technical sessions and will serve as a basis for discussion which has featured the technical meetings of the gasoline association in past years.

ELEVENTH ANNUAL CONVENTION NATURAL GASOLINE ASSOCIATION OF AMERICA MAY 17, 18 AND 19, 1932

Tuesday, May 17

12 o'clock noon—Luncheon, furnished by Natural Gasoline Supply Men's Association

AFTERNOON SESSION, 1:30 O'CLOCK

Address of Welcome.....Frank L. Chase, Lone Star Gasoline Co.
President's Address.....S. S. Smith, Shell Petroleum Corp.
Reports of Active Standing Committees.
"Properties of Hydrocarbons at High Pressures as Applied to the Design of Absorbers, Strippers and Stabilizers"...Dr. G. G. Brown, University of Michigan
"Refinery Vapor Recovery Systems, Including the Physical Properties and Utilization of Products".....Emby Kaye, Skelly Oil Co.
8:00 p.m.—Stag Smoker....Furnished by Natural Gasoline Supply Men's Association

Wednesday, May 18

MORNING SESSION, 9:30 O'CLOCK

Broad Discussion of Economics of Natural Gasoline Industry.....
.....R. C. Alden, Phillips Petroleum Co.

(It is planned to preprint Mr. Alden's paper and distribute it in advance at the registration desk. In this session Mr. Alden will briefly outline his paper in sections and lead the discussion on those sections.)

AFTERNOON SESSION, 2:00 O'CLOCK

"Natural Gasoline Markets and the New Grading System".....
.....J. A. LaFortune, Warren Petroleum Co.
"The East Texas Field".....G. H. L. Kent, Humble Oil & Refining Co.
"Pipe Line Transportation of Natural Gasoline".....Author not named
9:00 p.m.—Dance.....Furnished by Natural Gasoline Supply Men's Association

Thursday, May 19

MORNING SESSION, 9:30 O'CLOCK

"Operating Economies Effected During 1931"...Fred Shryock, Shell Petroleum Corp.
"Specifications, Stenches and Markets for Liquefied Petroleum Gases".....
.....T. W. Legatski, Phillips Petroleum Co.
"Carbon Dioxide".....H. Ross Campbell, Crosbie & Moran, Inc.
"Blending Natural Gasoline with Refinery Products".....
.....J. L. Gallagher, Sinclair Oil & Gas Co.
12:00 o'clock Noon—Luncheon..Furnished by Natural Gasoline Supply Men's Assn.

Butane May Be Used Instead of Distillate In Heating Orchards

Butane will be used to heat two citrus orchards in California next winter as part of a program of experimenting to ascertain the relative cost, effectiveness, cleanliness and convenience compared to that of distillates. This problem has been under investigation for several months and recently the Liquid Gas Orchard Heating Corp. was formed to carry the work to completion.

The main question involved is that of expense as the use of gas will require the installation of extensive equipment. If it can be used, the gas appears to possess some obvious advantages over oil. It will solve the problem of the smudge and smoke against which there has always been considerable complaint.

The plan calls for the establishment of a central gas plant just as when butane gas is served for any purpose to a community. Small underground pipe lines will carry the gas in liquid form to the orchards and to the heaters. The butane will be gasified before burning. It will be necessary to secure enough customers within a district to justify the expense of installing the central plant and the pipe lines. Butane will be delivered in tank cars.

A display of the apparatus to be used and of the system in working order was presented at the Orange Fair at San Bernardino, Calif., in February, and attracted much interest.

PRODUCTION BY YEARS

The following table prepared by the Western Petroleum Refiners Association from government data shows the trend in natural gasoline production in California and the total of California (data in gallons):

	East of California	California
1918	250,265	32,269
1919	311,149	40,386
1920	336,536	48,208
1921	391,714	58,220
1922	438,712	67,120
1923	642,897	173,329
1924	701,282	232,579
1925	824,257	303,180
1926	973,691	389,366
1927	1,143,105	498,020
1928	1,229,897	584,111
1929	1,393,328	840,325
1930	1,380,742	829,713
1931	1,132,300	672,300

COMPLETE BUTANE PLANT

CHATHAM, Ontario, May 7.—The City Gas & Electric Corp., of Three Rivers, Quebec, has just completed an air-butane gas plant to supply gas locally. Butane will be brought to Three Rivers in tank cars and will be distributed under a slight pressure to domestic consumers.

NEW EAST TEXAS PLANTS

Trapshooter Reilley Oil Co. is reported by field men as constructing a casinghead gasoline plant on its Mitchell lease in the M. V. Winkle Survey, Kilgore area, Gregg County. The East Texas Natural Gasoline Co. has also been formed at Kilgore for the purpose of building a casinghead gasoline plant on the W. P. Watson lease in the Mary Van Winkle Survey, Gregg County.

STABILIZED MOTOR FUELS

It is estimated that 75 cars of motor fuels under 12 pounds vapor pressure is now being manufactured daily in the Mid-Continent Field. The total production of the Mid-Continent is from 275 to 300 cars daily.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINES

	May 10		May 3	
OKLAHOMA (Group 3)—				
*U. S. Motor	.04⅝	.05	.04¾	.05
60-62 400	.04⅝	.05⅛	.04⅞	.05¼
64-66 390	.04⅞	.05⅛	.05	.05¼
64-66 375	.05	.05¼	.05	.05¼
68-70 350	.05⅛	.05¼	.05¼	
NORTH TEXAS—				
*U. S. Motor	.04½	.04¾	.04⅝	.04¾
60-62 400	.04⅝	.04¾	.04¾	.05
64-66 390	.04¾	.05	.04⅞	.05¼
64-66 375	.04¾	.05	.05	.05¼
64-66 360	.05⅛	.05¼	.05¼	
†NORTH LOUISIANA—				
*U. S. Motor	.05¼		.05¼	
60-62 400	.05¼	.05⅜	.05¼	.05⅜
†ARKANSAS—				
*U. S. Motor	.05¼		.05¼	
CHICAGO Based on Okla. (Group 3)—				
*U. S. Motor	.04⅝	.04⅞	.04¾	.05
60-62 400	.04⅞	.05⅛	.05	.05¼
64-66 375	.05	.05¼	.05¼	.05⅜
Aviation fighting grade	.05⅞	.06½	.05⅞	.06½
68-70 360	.05¼	.05½	.05⅜	.05⅝

Octane Ratings—Above quotations cover price ranges on gasoline in which no octane rating is given. Week of May 10, in the case of the U. S. Motor and 60-62 400 endpoint grades where an octane rating of 57-65, inclusive, is guaranteed, prices are three-eighths cent per gallon higher than quotations shown in above tables; where an octane rating of better than 65 is guaranteed, the prices are five-eighths cent higher. In the case of the remaining grades, gasolines of 65 octane rating or higher are quoted one-half cent higher than the quotations shown in above tables.

Unless otherwise provided by agreement of buyers and sellers, the Series 30 testing equipment of the Ethyl Gasoline Corp. is recognized as standard in determining octane ratings.

*Present distillation specifications on U. S. Motor gasoline are: 10 per cent evaporated, 167° F. maximum; 50 per cent, 284° F. maximum; 90 per cent, 392° F. maximum; residue not exceeding 2 per cent; maximum vapor pressure, 12 pounds. Additional specification on U. S. Motor gasoline available from bulletins of Bureau of Mines, Washington, D. C.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.06⅝	.06⅝	.06	.06¼
60-62 400	.06½	.06⅝	.06¼	.06⅜
64-66 375	.06⅝	.06¾	.06⅜	.06⅝
68-70 350	.06⅞	.07	.06⅝	.06¾

Octane Ratings—In the case of U. S. Motor and 60-62 400 endpoint grades, same price differentials based on octane ratings as shown in above tables for Oklahoma and other Mid-Continent areas.

CALIFORNIA (domestic movement only)—				
54-58 U. S. Motor	.05½	.06	.05¾	.06¼
58-60 400	.06½	.07	.06½	.07
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.06¾		.06¼	
Boston	.07¼		.07	
Baltimore, Md.	.07		.06½	
Charleston, S. C.	.06¾		.06¼	
U. S. Motor, 65 octane and above:				
New York (Bayonne)	.07		.06½	.07
Boston	.07½		.07¼	
Baltimore, Md.	.07		.06½	.07
Charleston, S. C.	.07		.06½	.07
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05¼	.05½	.05¼	.05½
U. S. Motor, below 65 octane number	.05	.05¼	.05	.05¼

NAPHTHAS

	May 10		May 3	
OKLAHOMA (Group 3)—				
50-52 450 (blending)	.04¾	.05	.04¾	.05
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05¼	.05½	.05½	.05¼
ARKANSAS—				
48-50 450 (blending)	.04¾	.05¼	.04¾	.05
CHICAGO Based on Okla. (Group 3)—				
50-52 450 (blending)	.04⅝	.04⅝	.04½	.04¾
Cleaners' naphtha, 56-58 gr. 200 i.b.p.-320 e.p.	.06¾		.06¾	
Lacquer diluent, 180 i.b.p.-250 e.p.	.09		.08½	.09
Lacquer diluent, 140 i.b.p.-200 e.p.	.09		.08½	.09
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06½	.07½	.06½	.07½
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.06	.06¾	.06	.06¾
Pet. thinner, 290, 300 i.b.p.-415 e.p., over 83° flash	.04¾	.06½	.04¾	.05½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05¼	.06½	.05¼	.05½
Petroleum spirits	.03⅞	.05	.04¼	.05

NATURAL GASOLINES

	May 10		May 3	
OKLAHOMA (Group 3)—				
Grade 18-55	.02½	.02¾	.02⅝	.02⅞
Grade 26-70	.02		.02⅛	
Grade 30-70	.01⅞		.02	
NORTH TEXAS—				
Grade 18-55	.02½	.02⅝	.02½	.02¾
Grade 26-70	.02		.02	
Grade 30-70	.01⅞		.01⅞	
NORTH LOUISIANA—				
Grade 26-70	.02½		.02½	
CALIFORNIA—				
75-78 375	.04½	.05	.04½	.05

Note—Grades 18-55, 26-70 and 30-70 are three of 24 grades adopted by the Natural Gasoline Association of America effective January 1. The grades are based on pounds vapor pressure and amount evaporated at 140° F. See Page 74 of January 7 issue for explanation of new grading system. While not exactly the same specifications apply, Grade 18-55 corresponds to the former Grade A, Grade 26-70 to former Grade AA and Grade 30-70 to former Grade BB.

KEROSENES

(All kerosenes water white)

	May 10		May 3	
OKLAHOMA (Group 3)—				
41-43	.04¼	.04½	.04¼	.04½
42-44	.04⅜	.04½	.04⅜	.04½
NORTH TEXAS—				
40-41	.04	.04¼	.04	.04¼
41-43	.04¼	.04⅜	.04¼	.04⅜
†NORTH LOUISIANA—				
41-43	.04½	.04¾	.04½	
42-44	.04¾	.05	.04¾	
†ARKANSAS—				
41-43	.04½		.04½	
PENNSYLVANIA (inland refineries)—				
45	.04¾	.05	.04⅝	.04⅞
46	.04⅞	.05¼	.04¾	.05
47	.05	.05¼	.04⅞	.05⅛
CHICAGO (Based on Group 3)—				
41-43	.04½	.04¾	.04½	.04¾
42-44	.04⅜	.04⅝	.04⅜	.04⅝
***CALIFORNIA—**				
38-40 high burning test	.04	.04½	.04	.04½
NEW YORK (Bayonne, N. J.)—				
41-43	.05½	.06	.05¼	.05½
GULF COAST (domestic)—				
41-43 water white	.04¼	.04½	.04¼	.04½

*For Pacific Coast consumption.

†For Arkansas, Louisiana and Mississippi delivery.

TRACTOR FUELS*

	May 10		May 3	
OKLAHOMA (Group 3)—				
39-40 prime white	.02½	.02¾	.02½	.02¾
38-40 light straw	.02¼	.02⅜	.02¼	.02⅝
NORTH TEXAS—				
38-40 light straw	.02¼	.02½	.02¼	.02½
CHICAGO (Based on Group 3)—				
38-40 light straw	.02¼	.02½	.02¼	.02½
PENNSYLVANIA (inland refineries)—				
41-43 prime white	.04	.04¼	.04	.04¼

*There are no standard specifications for tractor fuels. Grades commonly sold have flash under 175° F. (open cup) and under 575° F. endpoint and less than .2 per cent sulphur. Tractor fuels are available from all Mid-Continent refining groups at prices in line with the Oklahoma market taking into consideration differentials in freight rates.

FURNACE OILS*

	May 10		May 3	
OKLAHOMA (Group 3)—				
32-36 straw	.01⅞	.02	.01⅞	.02
36-38 straw	.02	.02¼	.02	.02¼
38-40 straw	.02⅛	.02¼	.02⅛	.02¼
39-41 prime white	.02⅜	.02½	.02⅜	.02½
NORTH TEXAS—				
38-40 straw	.02⅛	.02¼	.02⅛	.02¼
†NORTH LOUISIANA—				
36-40	.02½	.02⅝	.02½	.02⅝
†ARKANSAS—				
32-36	.02½	.02⅝	.02½	.02⅝
CHICAGO (Based on Group 3)—				
32-36 straw	.02	.02⅛	.02	.02⅛
38-40 straw	.02⅛	.02¼	.02⅛	.02⅜
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03¾	.04	.03¾	.04
NEW YORK (Bayonne, N. J.)—				
32-36	.04		.04	
36-40	.05		.05	

*Above prices are for furnace oils of zero cold test, under 190° F. flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

GAS OIL, DIESEL OIL AND FUEL OIL

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

	May 10		May 3	
OKLAHOMA (Group 3)—				
32-36 (G.O.) cracking stock	.01⅜	.01½	.01⅜	.01½
U.G.I. (G.O.)	.01⅜		.01⅜	
32-36, zero to 15 (G.O.) high flash	.01½	.01⅝	.01½	.01⅝
28-30, zero to 10	.52½	.55	.52½	.55
26-30, zero to 10	.50	.55	.47½	.52½
24-26	.42½	.45	.40	.45
20-22	.40	.45	.35	.40
16-20	.35	.40	.30	.35
Below 16	.30	.32½	.27½	.32½
NORTH TEXAS—				
32-36 (G.O.) industrial	.01⅜	.01½	.01¼	.01½
22-26	.45	.50	.40	.45
Below 20	.30	.40	.27½	.35
†NORTH LOUISIANA—				
32-36 (G.O.) zero	.02¼	.02½	.02¼	.02½
14-16	.35	.45	.35	.45
†ARKANSAS—				
32-36 (G.O.) zero	.02¼	.02½	.02¼	.02½
14-16	.35	.45	.35	.45
CHICAGO (Based on Group 3)—				
32-36 (G.O.) industrial	.01¼	.01⅜	.01¼	.01⅜
28-30 (zero)	.55	.60	.55	.60
22-26	.40		.40	
18-22	.32½	.37½	.32½	.37½
Below 18	.25	.30	.25	.30
PENNSYLVANIA (inland refineries)—				
36-40	.03¼	.03½	.03¼	.03½

Note—Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

CALIFORNIA—				
20-34 (G.O.) per bbl.	.75	.95	.75	.95
27 plus Diesel	.75	.90	.75	.90
15-19 Bunker (at tidewater)	.55	.75	.55	.75
15-19 Bunker (cargo lots)	.50	.65	.50	.65
15-19 (tank cars)	.45	.70	.45	.70
GULF COAST—				
28-30 (G.O.)	.03	.03⅛	.03	.03⅛
28-30 Diesel	1.20		1.20	
Bunker C (bulk cargoes)	.45	.50	.45	.50
Bunker C (bunkers)	.55		.55	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.04		.04	
*28-30 Diesel	1.30		1.30	
†Bunker C	.65		.65	

*Lighterage 6½ cents per barrel.

†Lighterage 5 cents per barrel.

PETROLEUM COKE*

Prices per ton f.o.b. refineries in Chicago area

	May 10		May 3	
Breeze (screenings)	3.75		3.75	
Still runs	4.75		4.75	
Lump and egg	7.00	7.50	7.00	7.50

*Refiners will absorb freight up to 80 cents a ton.

NEUTRAL OILS

(Viscosity at 100° F. and Color)

	May 10		May 3	
OKLAHOMA (Group 3)—				
Zero to 10 Cold Test:				
150-3	.06¼	.06½	.06¼	.06½
180-3	.07½	.07¾	.07½	.07¾
180-4	.07	.07¼	.07	.07¼
200-3	.08½		.08½	
200-4	.08	.08¼	.08	.08¼
240-3	.09¾	.10	.09¾	.10
240-4	.09½	.09½	.09½	.09½
280-3	.11¼	.11½	.11¼	.11½
280-4	.10¼	.10½	.10¼	.10½
300-3.5	.11¾	.12	.11¾	.12
350-3.5	.12¼	.12½	.12¼	.12½
400-4	.12¾	.13	.12¾	.13
500-4.5	.13¼	.13½	.13¼	.13½
100-2 Paraffin Oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.07¾	.08	.07¾	.08
200-4	.07½	.07¾	.07½	.07¾
240-3	.09½	.09½	.09½	.09½
240-4	.08¾	.09	.08¾	.09
280-3	.10¾	.11	.10¾	.11
280-4	.09¾	.10	.09¾	.10
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.15	.16	.15	.16
10 pour test	.14	.15	.14	.15
15 pour test	.13½	.14½	.13½	.14½
25 pour test	.12¾	.13¼	.12¾	.13¼
30 pour test	.12¾	.13	.12¾	.13
180 vis., No. 3, 25 pour test	.15¼	.16½	.15¼	.16½
200 vis., No. 3:				
Zero pour test	.22	.23½	.22	.23½
10 pour test	.21	.22	.21	.22
15 pour test	.19½	.20	.19½	.20
25 pour test	.18	.18½	.18	.18½
30 pour test	.17¾	.18	.17¾	.18
GULF COAST—				
Pale Oils:				
100-2-2½	.05		.05	
200-3	.06½		.06½	
300-3	.07		.07	
500-3½	.08	.08¼	.08	.08½
750-3½	.09	.09½	.09	.09½
1,200-3½	.10½	.11	.10½	.11
2,000-4	.12	.12½	.12	.12½
Red Oils:				
200-5-6	.05	.05½	.05	.05½
300-5-6	.05½	.06	.05½	.06
500-5-6	.06¾	.07	.06¾	.07
1,200-5-6	.09½	.10	.09½	.10
2,000-6 plus	.11	.11½	.11	.11½

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

CALIFORNIA—				
Pale Oils:				
100-2½-3	.07¾	.08	.07¾	.08
200-2½-3	.07¾	.08	.07¾	.08
300-3-3½	.08¼	.08½	.08¼	.08½
350-3-4	.08¾	.09	.08¾	.09
400-3-4	.09¼	.09¾	.09¼	.09¾
450-3-4	.09¾	.10	.09¾	.10
550-3-4	.10¼	.11	.10¼	.11
Red Oils:				
200-4½-5	.07¾	.08¼	.07¾	.08¼
300-5-6	.08¼	.08¾	.08¼	.08¾
350-5-6	.09	.09¼	.09	.09¼
400-5-6	.09½	.09¾	.09½	.09¾
450-5-6	.10	.10¼	.10	.10¼
500-5-6	.10½	.11	.10½	.11
600-5-6½	.11½	.12	.11½	.12
700-6½ plus	.12½	.12¾	.12½	.12¾
750-6½ plus	.13	.13½	.13	.13½
900-6½ plus	.14½	.14¾	.14½	.14¾
NEW YORK (Bayonne, N. J.)—				
Paraffin Oil:				
25 pale	.10¼		.10¼	
28 pale	.07¼		.07¼	
280 red	.12½		.12½	
250 red	.11½		.11½	
225 red	.10		.10	
200 red	.09¼		.09¼	

BRIGHT STOCKS AND STEAM REFINED STOCKS

OKLAHOMA (Group 3)—	May 10		May 3	
600 light green S.R.	.05	.06	.05	.06
600 dark green S.R.	.04	.04½	.04	.04½
Bright Stock:				
190-200 D	.23		.23	
150-160 D, 0-10	.20¾	.21	.20¾	.21
150-160 D, 10-25	.20¼	.20½	.20¼	.20½
150-160 D, 25-40	.19¾	.20	.19¾	.20
150-160 E	.20		.20	
PENNSYLVANIA—				
600 S.R.	.13¾	.14½	.13	.13½
650 S.R.	.16½	.17	.15½	.16
600 Pennsylvania flash	.17½	.18	.16½	.17
600 D filtered	.22½	.23	.22	.22½
600 E filtered	.17	.17¼	.16½	.17
Pennsylvania Grade bright stock:				
Bright Stock, No. 8 color, 145-50 vis., 210-540-550 flash:				
10 pour test	.27½	.28½	.26	.27
15 pour test	.25	.26	.24	
25 pour test	.24	.24½	.23	
35 pour test	.23½	.24	.22½	.23

WAX AND PETROLATUM

(Prices per pound)

OKLAHOMA (Group 3)—	May 10		May 3	
124-126 white crude scale..	.01¾	.02	.01¾	.02
PENNSYLVANIA—				
122-124	.02⅛	.02¼	.02⅛	.02¼
124-126	.02⅛	.02¼	.02⅛	.02¼
NEW YORK (Bayonne, N. J.)—				
Refined Wax:				
120-122	.02¾		.02¾	
125-127	.03⅛		.03⅛	
130-132	.03⅜		.03⅜	
133-135	.04		.04	
135-137	.04⅛		.04⅛	
Petrolatum in barrels in carload lots:				
Dark Green	.01¾		.01¾	
Amber	.02⅛		.02⅛	
Extra amber	.02⅝		.02⅝	
Cream	.04⅝		.04⅝	
Lily white	.05⅝		.05⅝	
Snow white	.06⅝		.06⅝	

EXPORT PRICES

GASOLINE				
GULF COAST—	May 10		May 3	
U. S. Motor	.05	.05¼	.05	.05¼
60-62 400	.05	.05½	.05	.05½
61-63 390	.05½	.05⅝	.05½	.05⅝
64-66 375	.05½	.05¾	.05½	.05¾
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p..	.04	.04½	.04	.04½
U. S. Motor, 65 octane num.	.05		.05	
U. S. Motor, 67 octane num.	.05¼		.05¼	
U. S. Motor, 69 octane num.	.05½		.05½	
58-62 400 endpoint gasoline.	.04½		.04½	.05
KEROSENE				
GULF COAST—				
41-43 prime white	.04⅜		.04¼	
41 water white	.04½		.04⅜	.04½
LOS ANGELES, CALIF.—				
41-43 water white	.04	.04¾	.04	.04¾
LUBRICANTS				
NEW YORK (Bayonne, N. J.)—				
600, steam refined cylinder stocks, in bbls.	.21	.22	.21	.22
650, steam refined	.22	.23	.22	.23
600, Pennsylvania flash	.23	.24	.23	.24
630, Pennsylvania flash	.29½		.29½	
600, Warren E	.23	.24	.23	.24
600, Oil City E	.22½	.23	.22½	.23
Light 140-150 Bright Stocks	.31	.32	.29	
Dark 140-150 Bright Stocks	.30	.31	.28	.29

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

East Texas (Apr. 1, 1932)†.....$ .93
East Texas (April 11, 1932)‡..... .93
Corsicana heavy* ..... .64
Other fields.....See gravity table

†Posted by Magnolia Petroleum Co., Sinclair Refining Co., Panola Pipe Line Co., Tidal Refining Co. and The Texas Company. ‡Gulf Pipe Line Co. and Atlas Pipe Line Co. *Magnolia Petroleum Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective April 25, 1932)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field) (Mar. 14, 1932).....$2.02
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.75
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia) (Feb. 26, 1932) 1.70
Penna Grade Oil in Buckeye Pipe Line Lines (Mar. 12, 1932) 1.55
Corning Grade Oil in Buckeye Pipe Line Co.'s line (April 26, 1932) 1.05
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931) ... .60

Pennzoil Co.
(Effective April 25, 1932)

Pennsylvania Grade Oil in National Transit Lines:
Group A $1.97
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B 1.96
Includes Titusville district.
Group C 1.95
Includes Turkey and Tidiout districts.
Group D 1.94
Includes Bear Creek and Forkey districts.
Group E 1.93
Includes Eidenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

Tide Water Pipe Co.
(Effective April 25, 1932)

Bradford, Pa. $2.02
Allegany, N. Y. 2.02

Pure Oil Co.
(Effective April 25, 1932)

Cabin Creek, W. Va. $1.70
Bradford Hollow, W. Va. 1.70
Kelly's Creek, W. Va. 1.70

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties.....See gravity table

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles, light (Aug. 24, 1931) .....$ .75
Iles, heavy (Aug. 24, 1931) ..... .53
Fort Collins (April 11, 1932) ..... .86
Florence (April 11, 1932) ..... .80
Wellington (April 11, 1932) ..... .76
Greasewood Dome, Colo. (Apr. 11, 1932) 1.00
Dutton Creek (April 11, 1932) ..... .82
Rock Creek, Wyo. (April 11, 1932) 1.00
Frannie, light (Nov. 2, 1931) ..... .61
Frannie, heavy (Nov. 2, 1931) ..... .51
Salt Creek.....Mid-Continent gravity table
LaBarge.....Mid-Continent gravity scale
Big Muddy (April 11, 1932) ..... .93
Grass Creek (April 11, 1932) 1.20
Elk Basin (April 11, 1932) 1.20
Lance Creek (April 11, 1932) 1.15
Poison Spider (Mar. 5, 1931) ..... .70
Notches (Mar. 14, 1927) ..... .65
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Apr. 15, 1931) ..... .93
Lost Soldier (April 12, 1932) ..... .80
Hamilton Dome (Nov. 3, 1931) ..... .45
Greybull (April 11, 1932) 1.20
Cat Creek (April 11, 1932) 1.20
Pondera (Nov. 3, 1931) ..... .90
Sunburst, Mont. (April 11, 1932) 1.05
Hogback, N. Mex. (Aug. 24, 1931) .... .80
Border, Mont. 1.55
Red Coulee, Alberta 1.55
Lea County, N. Mex. (Apr. 1, 1932)*.. .65
Maljamar (April 11, 1932) ..... .60
Artesia-Jackson (April 11, 1932) ..... .65

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback and Iles by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.
*Posted by The Texas Company, Humble Oil & Refining Co. met this price effective April 11.

WEST TEXAS

Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos Counties* .....$ .65
Lea County, N. Mex. (See Rocky Mountain States).
Toboro, Pecos County (April 11, 1932)† .55

*Effective April 1, 1932, Magnolia Petroleum Co., The Texas Company. Effective April 11, Humble Oil & Refining Co. and Gulf Pipe Line Co. and Stanolind Oil & Gas Co. in Winkler County. †Shell Petroleum Corp.

GULF COAST

Grade A and Grade B classifications discontinued by leading buyers.....
.....See gravity table
Jennings, La. (April 11, 1932)* .....$ .75
Lockport, La...See Gulf Coast gravity table
Refugio, light.....See gravity table
Refugio, heavy (April 11, 1932)‡ ..... .80
Markham (April 11, 1932)§.....
.....See Gulf Coast gravity schedule
High Island (April 11, 1932)¶.....
.....See Gulf Coast gravity schedule

*Gulf Refining Co. †Magnolia Petroleum Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Yount Lee Pipe Line Co.

NORTH LOUISIANA AND ARKANSAS

Smackover, Ark. (al. grades) .....$ .65
Urania, La. (April 12, 1932) ..... .60
East El Dorado, Ark. (April 6, 1932).. .65
Stephens, Ark., below 29° (April 12, 1932) ..... .61
Stephens, Ark., 29° and above (April 12, 1932) ..... .64
Other fields.....See gravity table

Note—Smackover, all grades, The Texas Company, April 1, 1932; Magnolia Petroleum Co., April 6, 1932; Standard Oil Co. of Louisiana, April 11, 1932.

(Continued on Next Page)

CRUDE OIL GRAVITY TABLE

	Kansas and Oklahoma	North and Central Texas	East Central Texas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Salt Creek and LaBarge, Wyoming	North Louisiana and Arkansas	Gulf Coast (Texas-Louisiana)	Cameron Meadows, Louisiana	Iowa and Lockport, Louisiana
	1	2	3	4	5	6	7	8	9	10
Below 25 degrees	....	....	$.67	....	....	....	$.68	$.80	$.70	$.80
25-25.9 degrees	....	....	.67	....	....	....	.70	.81	.71	.81
26-26.9 degrees	....	....	.67	....	....	....	.72	.82	.72	.82
27-27.9 degrees	....	....	.67	....	....	....	.74	.83	.73	.83
28-28.9 degrees	....	....	.76	....	....	....	.76	.84	.74	.84
Below 29 degrees	$.76	$.76	....	....	....	$.76	....	....	....	....
29-29.9 degrees	.78	.78	.98	....	....	.78	.78	.85	.75	.85
30-30.9 degrees	.80	.80	.80	....	....	.80	.80	.86	.76	.86
31-31.9 degrees	.82	.82	.82	....	....	.82	.82	.87	.77	.87
32-32.9 degrees	.84	.84	.84	....	....	.84	.84	.88	.78	.88
33-33.9 degrees	.86	.86	.86	....	....	.86	.86	.89	.79	.89
34-34.9 degrees	.88	.88	.88	$.76	$.66	.88	.88	.90	.80	.90
35-35.9 degrees	.90	.90	.90	.78	.68	.90	.90	.91	.81	.91
36-36.9 degrees	.92	.92	.92	.80	.70	.92	.92	.92	.82	.92
37-37.9 degrees	.94	.94	.94	.82	.72	.94	.94	.94	.84	.94
38-38.9 degrees	.96	.96	.96	.84	.74	.94	.96	.96	.86	.96
39-39.9 degrees	.98	.98	.98	.86	.76	.94	.98	.98	.88	.98
40 degrees and over.	1.00	1.00	1.00	.88	.78	.94	1.00	1.00	.90	1.00

Note—Magnolia Petroleum Co.'s prices in Oklahoma, North Texas and Central Texas, effective April 1, are the same as above given in Columns 1 and 2, excepting that the schedule begins with below 28 degrees, 67 cents; 28-28.9 degrees, 76 cents. The Empire Pipe Line Co. met the Magnolia prices in Kansas and Oklahoma; the White Eagle Oil Corp. in Kansas and the Pure Oil Co., in Oklahoma.

Column 1—Effective April 1, 1932, Continental Oil Co. in Oklahoma and Kansas; Barnsdall Refineries, Inc., and Standish Oil Co. (Phillips Petroleum Co.), in Oklahoma and Kansas; Skelly Oil Co., Kanotex Refining Co., Derby Oil Co., Vickers Petroleum Co., in Kansas; Magnolia Petroleum Co. and Pure Oil Co., in Oklahoma (see note above); White Eagle Oil Corp., in Kansas (see note above); The Texas Company in Oklahoma. Effective April 11, 1932, Stanolind Crude Oil Purchasing Co. in Oklahoma and Kansas; Gypsy Oil Co., Mid-Continent Petroleum Corp., Champlin Refining Co., Eason Oil Co., Pepper Gasoline Co. and Carter Oil Co. in Oklahoma. Carter Oil Co.'s schedule begins at below 25 degrees, 68 cents, with 2 cents added for each degree upward.

Column 2—Continental Oil Co., effective April 1, in North Texas only; followed on same day by The Texas Company in North and Central Texas; Magnolia Petroleum Co. in North and Central Texas (see note above); effective April 11, the Humble Oil & Refining Co., Gulf Pipe Line Co. and Stanolind Crude Oil Purchasing Co.

Column 3—Effective April 1, 1932, the Magnolia Petroleum Co.; effective April 11, 1932, Humble Oil & Refining Co.

Column 4—Effective April 1, 1932, Magnolia Petroleum Co.; effective April 2, the Philtex Oil Co. (Phillips Petroleum Co.), but its schedule was carried down to below 30 degrees at 66 cents, with 2 cents added for each degree upward. Effective April 11, other companies met Continental schedule.

Column 5—Effective April 1, 1932, Magnolia Petroleum Co.; effective April 2, Philtex Oil Co., excepting that latter company carried its schedule down to below 30 degrees at 56 cents, with 2 cents added for each degree upward. Effective April 11, Continental Oil Co. and Gulf Pipe Line Co. met Magnolia Petroleum Co. prices.

Column 6—Midwest Refining Co., effective April 11, 1932.

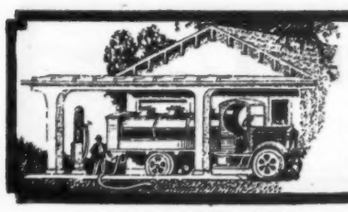
Column 7—The Texas Company, effective April 1, 1932; Magnolia Petroleum Co., effective April 6, 1932; Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Stanolind Oil & Gas Co. (in Pine Island and Pleasant Hill and in Marion County, Texas) and Gulf Refining Co., effective April 11, 1932.

Column 8—The Texas Company, effective April 1, 1932; Sun Oil Co., April 1, 1932; Humble Oil & Refining Co., effective April 11, 1932; Gulf Pipe Line Co., effective April 11, 1932. Gulf's gravity scale ends with a top of 35 and above at 91 cents.

Column 9—Magnolia Petroleum Co., effective April 6, 1932.

Column 10—Magnolia Petroleum Co., effective April 6, 1932.

(California Crude Oil Prices on Page 39)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns May 10.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago	16.0	16.0	3.0	10.0
Decatur, Ill.	16.5	16.5	3.0	10.1
E. St. Louis	15.8	15.8	3.0	9.3
Joliet	16.5	16.5	3.0	10.1
Peoria	16.5	16.5	3.0	10.1
Quincy	16.3	15.2	3.0	9.9
Davenport, Ia.	16.6	16.6	3.0	10.4
Des Moines	16.6	16.6	3.0	10.4
Keokuk	16.6	16.6	3.0	10.4
Sioux City	16.3	16.2	3.0	10.0
Duluth, Minn.	17.6	17.6	3.0	11.0
Mankato	17.2	17.2	3.0	10.8
Minneapolis	17.3	17.3	3.0	11.0
LaCrosse, Wis.	18.3	18.3	4.0	11.1
Milwaukee	17.2	17.2	4.0	10.0
Madison	17.4	17.4	4.0	10.2
Detroit, Mich.	12.5	12.5	3.0	10.0
Grand Rapids	16.6	15.8	3.0	10.5
Saginaw	14.2	14.2	3.0	10.8
Evansville, Ind.	17.3	17.3	4.0	10.1
Indianapolis	17.3	17.3	4.0	10.1
South Bend	17.8	17.8	4.0	10.6
Fargo, N. D.	19.0	19.0	3.0	13.0
Huron, S. D.	18.4	18.4	4.0	11.8
Sioux Falls	17.9	17.9	4.0	11.5
K. C., Mo.	16.0	16.0	3.0	8.7
Springfield*	16.0	16.0	3.0	9.6
St. Louis*	15.5	15.5	3.0	9.4
St. Joseph	15.6	15.6	3.0	9.2
Wichita, Kans.	14.9	14.9	3.0	8.9
Bartlesville, Ok.	14.1	16.1	4.0	8.1

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 1½ cents or more below the price on the regular grade.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1—Discounts on Q.D.A. on 500 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	17.0	18.0	4.0	10.0
Fort Worth	17.0	18.0	4.0	9.0
Houston	16.0	19.0	4.0	10.0
San Antonio	16.0	18.0	4.0	9.0
El Paso	16.0	18.0	4.0	12.0
Texarkana	*18.5	18.5	4.0	†11.0
Muskogee, Ok.	15.0	17.0	4.0	9.0
Okla. City	15.0	17.0	4.0	9.0
Tulsa	15.0	17.0	4.0	9.0
Ft. Smith, Ark.	*18.0	18.0	6.0	†11.0
Little Rock	*19.5	*19.5	6.0	†11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

*Less 2¼ cents to dealers. †Less 2 cents to dealers.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	16.0	17.0	3.0	11.0
Philadelphia	15.0	16.0	3.0	11.0
Scranton	16.0	17.0	3.0	11.0
Allentown	16.0	17.0	3.0	11.0
Altoona	16.0	17.0	3.0	11.0
Erie	16.0	17.0	3.0	11.0
Dover, Del.	16.0	17.0	3.0	11.0
Wilmington	16.0	17.0	3.0	11.0
Springf'd, Mass.	16.5	17.5	3.0	9.0
Worcester	16.3	17.3	3.0	9.0
Boston	15.5	16.5	3.0	9.0
Providence, R.I.	14.5	15.5	2.0	9.0
Hartford, Conn.	15.5	16.5	2.0	9.0
New Haven	15.6	16.6	2.0	9.0

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points	17.5	18.0	4.0	*12.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13 cents.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	16.0	19.0	4.0	13.5
Pueblo	16.0	19.0	4.0	13.0
Grand Jctn.	20.0	23.0	4.0	15.5
Casper, Wyo.	16.0	19.0	4.0	11.0
Cheyenne	15.0	18.0	4.0	12.5
Butte, Mont.	19.0	22.0	5.0	17.0
Billings	19.0	22.0	5.0	15.5
Great Falls	21.0	24.0	5.0	17.0
Helena	21.0	24.0	5.0	17 0
Salt Lake, Utah	18.5	21.5	4.0	16 0
Albu'que, N. M.	17.0	20.0	6.0	14.0
Boise, Idaho	†18.0	20.0	5.0	18.0
Twin Falls	19.0	22.0	5.0	18.0

*Two-cent discount off tank wagon to dealers.

†One-cent discount to dealers at time of delivery.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.*	22.0	22 0	6.0	11.0
Augusta	22 0	22.0	6 0	14.5
Macon	22.0	22 0	6 0	13.0
Savannah	22.0	22.0	6.0	13.5
Birm'ham, Ala.	21.5	21.5	6.0	13.0
Mobile	23.0	23.0	6.0	11.0
Montgomery	23.0	23.0	6.0	14.5
Jackson, Miss.	19.5	19.5	5.0	11.5
Vicksburg	19.5	19.5	5 0	9.5
Jack'ville, Fla.	19.0	19.0	7.0	10.5
Miami	22.0	22 0	7.0	13.5
Pensacola	20.0	20 0	7.0	13.5
Tampa	21.0	21 0	7 0	9.5
Lexington, Ky.	18.5	19.5	5.0	10.5
Covington	18.5	19.5	5.0	10.5
Louisville	17.5	18.5	5 0	10.5
Paducah	18.5	19.5	5.0	8.5

A third grade "Kyso Green" is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax and 2½ cents county tax.

Effective April 2 price to dealers 2 cents under posted tank wagon price.

*An additional discount of 1 cent is offered to dealers effective October 6.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atl'tic City, N.J.	16 4	16 9	3.0	11.2
Newark	15.7	16.2	3.0	8.5
Annapolis, Md.	17.0	17.5	4.0	10.0
Baltimore	16.4	16.9	4.0	7.0
Cumberland	17.9	18 4	4.0	11.7
Wash'g'n, D. C.	14.9	15.4	2.0	10.0
Danville, Va.	19.1	19 6	5.0	11.9
Norfolk	17.5	18.0	5.0	10.3
Petersburg	18 6	19.1	5.0	11.4
Richmond	17.9	18.4	5.0	10.7
Roanoke	19.1	19.6	5 0	11.9
Charles'n, W.Va.	17.8	18.3	4.0	11.6
Parkersburg	16.4	16.9	4.0	10.2
Wheeling	17.4	17 9	4.0	11.2
Charlotte, N. C.	20 7	21.2	6 0	12.5
Hickory	20 9	21.4	6.0	12.7
Mt. Airy	21.0	21.5	6.0	12.8
Raleigh	20 5	21.0	6 0	12.3
Salisbury	20.8	21.3	6.0	12.6
Charleston, S.C.	18.5	19.0	6.0	10.3
Columbia	20 4	20.9	6.0	12.2
Spartanburg	20.7	21.2	6.0	12.5

Two and one-half cents per gallon discount off tank wagon price of gasoline to dealers except Washington, D. C., and States of Maryland and New Jersey, where discount is 3½ cents.

Prices shown above are for standard gasoline.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	10 7	6.23
V.M.P. naphtha	12.7	7.23
Cleaners' naphtha	15.2	9.23
Stanisol	15.2	9.23

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	15.5	16.5	3.0	10.0
New York*	14.0	16.0	3.0	9.5
Buffalo	16.5	17.5	3.0	9.0
Rochester	16.5	17.5	3.0	9.0
Syracuse	17.3	18.3	3.0	9.5
Boston, Mass.	15.0	16.0	3.0	9.0
Augusta, Me.	17.3	18.3	4.0	9.5
Manch'tr, N. H.	16.9	17.9	4.0	9.0
Burlington, Vt.	17.8	18.8	4.0	10.0

*Prices in steel barrels.

PACIFIC COAST TERRITORY

Standard Oil Co. of California*

	Gasoline			Kero.
	Tank truck	Posted retail	Incl'ds tax of	tank wagon
Fresno	13.5	14 5	3.0	17.0
San Francisco	13.5	14.5	3.0	15.5
Los Angeles	13.0	14.0	3.0	15.5
Reno, Nev.	16.0	20.0	4.0	19.0
Portland, Ore.	14.0	12.0	4.0	16.5
Seattle, Wash.	14.0	13.0	5.0	16.5
Tacoma	14.0	12 0	5.0	16.5
Spokane	17.5	20.0	5.0	20.5
Phoenix, Ariz.	14.5	17.0	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.	19.5	19.5	6.0	†12.0
Baton Rouge	18.5	18.5	5.0	†12.0
Alexandria	19.5	19.5	6.0	10.0
Lafayette*	19.5	19.5	6.0	†10.0
Lake Charles*	19.5	19.5	6.0	†12.0
Shreveport	18.5	18.5	5.0	†12.0
Knoxville, Tenn.	22.5	22 5	7.0	13.5
Memphis	21.0	21.0	7.0	9.0
Chattanooga	22 5	22 5	7.0	11.0
Nashville	22.0	22.0	7.0	12.5
Bristol	21.0	21 0	7.0	14.0
Lt. Rock, Ark.	19 5	19 5	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Kerosene prices in Louisiana include 1 cent tax except New Orleans where tax is 2 cents.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	15.9	16.9	4.0	10.25
McCook	17.0	17.0	4.0	11.75
Norfolk	17.75	18.75	4.0	10.75
N. Platte	18.0	18.0	4.0	11.5
Scottsbluff	17.0	17.0	4.0	11.25

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

STANOLIND FURNACE OIL IN CHICAGO

Effective July 1, prices f.o.b. Chicago, tank wagon prices: 1 to 99 gallons, 8 cents; 100 gallons or more, 6 cents.

Stanolex Fuel

Effective May 9, f.o.b. Chicago, tank wagon prices: 1 to 199 gallons, 7 cents; 200 gallons or more, 5 cents. Sinclair met this by bringing down the price of its No. 3.

Fuel Oils

Chicago tank wagon prices (in lots of 400 gallons and over): 38-40 straw distillate, 6 cents; 32-36 gas oil (light zero), 5.5 cents; 32-36 gas oil (industrial), 5.25 cents; 28-30 zero fuel oil, 5 cents; 34-36 fuel oil, 4.25 cents; 18-22 fuel oil, 3.75 cents.

TANK WAGON CHANGES

Continental Oil Co., effective May 3, advanced gasoline tank wagon and service station prices 2 cents at Albuquerque, N. Mex.

Standard Oil Co. of Indiana, effective May 9, advanced gasoline tank wagon and service station prices one-half cent in Louisiana and Arkansas and various points in Tennessee.

Standard Oil Co. of Kentucky, effective April 28, made several changes in prices in its territory as follows: Gasoline tank wagon and service station advanced one-half cent and kerosene tank wagon at Atlanta, Ga., 1½ cents; gasoline tank wagon and service station advanced one-half cent at Augusta, Ga.; gasoline tank wagon and service station and kerosene tank wagon advanced one-half cent at Macon, Ga.; gasoline tank wagon and service station advanced one-half cent at Jacksonville, Tampa, Miami and Pensacola, Fla.

Standard Oil Co. of New Jersey, effective May 2, in its territory announced several minor changes in gasoline tank wagon and service station and kerosene tank wagon prices involving both reductions and advances.

Atlantic Refining Co., effective May 2, advanced kerosene tank wagon prices one-half cent in New England states.

Standard Oil Co. of Indiana, effective May 6, advanced gasoline tank wagon price at Grand Rapids, Mich., .8 cent.

Standard Oil Co. of California, effective May 4, advanced gasoline tank wagon prices 1 cent in California.

Magnolia Petroleum Co., effective May 2, advanced gasoline tank wagon and service station prices 2 cents at Houston and 1 cent at El Paso, Tex. Effective May 9, company advanced gasoline tank wagon and service station prices one-half cent at Little Rock, Ark.

CRUDE OIL PRICES

(Continued from Preceding Page)

siana, Gulf Refining Co. and Louisiana Oil Refining Co., April 11, 1932. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co; East El Dorado by Magnolia Petroleum Co., effective April 6, 1932; by Gulf Refining Co., effective April 11, 1932; Stephens, Ark., by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Apr. 1, 1932)*	$ .75
Luling (Apr. 1, 1932)*	.64
Mirando (Apr. 1, 1932)*	.99
Pettus (April 11, 1932)‡	1.09
Salt Flat (April 11, 1932)‡	.75
Thrall§	
Lytton Springs (Lockhart) (Apr. 1, 1932)*	.94
Dobrowolski§	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	
Somerset¶	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	

*Magnolia Petroleum Co., The Texas Company, Humble Oil & Refining Co. posted 80 cents for Mirando, April 11. ‡Thrall prices same as North Central Texas less 12¾ cents per cwt. freight. §Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products. ¶Pioneer Oil & Refining Co. ‡Humble Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective April 11, 1932)

Lima	$1.15
Wooster	1.25
Illinois	1.10
Indiana	.75
Princeton	1.10
Plymouth	Shut in
Western Kentucky	1.05
Midland, Mich. (Oct. 9, 1931)*	.55
Dundee, Mich.†	
Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale Upper and Lower Traverse Sands, Mich.†	
....Same as Mid-Continent gravity scale Somerset, Ky. (April 25, 1932)	.85
Hart County, Ky. (April 16, 1932)‡	.85

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. ‡Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through own pipe line.

MEXICO

Panuco*	$ .47

*F.o.b. ship, based on March transactions and exclusive of production and export taxes and bar dues.

CANADA

Ontario (Nov. 3, 1931):	
Petrolia*	$1.90
Oil Springs*	1.97
Alberta (Apr. 22, 1932):	
Turner Valley†:	
Crude oil 40-44.9	1.54
Crude oil 45-45.9	2.18
Crude oil 50 and above	2.30
Crude naphtha	2.32
Discolored naphtha	3.08

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Of Interest to Sales Departments

Business Bureau to Aid Fight Against Substitution Evil

DALLAS, Tex., May 7.—The Better Business Bureau of this city is to take an active part in the fight against the substitution evil in the sale of inferior gasolines and motor oils. William Collier, general manager of the bureau, made the following announcement:

"To advertise a certain grade or brand of oil or gas and sell the unsuspecting purchaser another, possibly inferior to the brand advertised, is a fraud upon the public and the perpetrator is subject to a criminal charge of swindling. The swindle is usually successful, for the reason that the substitution of gasoline or oil is done at night and no check on the station operator is made, thus permitting the substituted gasoline or oil to be run through the pumps mingling with the grade of gasoline advertised.

"It is a common occurrence to see in Dallas the unloading of gasoline by a tank truck with no name whatsoever on the truck or with a name other than that of the advertised gasoline handled by the filling station to which delivery is being made. This is a violation of the law.

"Often you may observe this delivery being made after dark and before dawn. This also is a violation of the law unless special permission from the fire marshal's office has been obtained. When gasoline is sneaked into Dallas gas stations under cover of darkness, it is very probable that no gasoline tax has been paid thereon. This is just another little violation of the law which according to recent estimates is costing the state school and road funds the handsome sum of $6,000,000 annually.

"When the filling station operator sells this bootleg gas from the pumps of any well-known brand of gasoline manufacturer, this operator is guilty of a violation of the state law against fraudulent or misleading advertising. He is also guilty of a violation of the law against selling misbranded petroleum products.

"The Dallas Business Bureau is not interested in the prices charged for gasoline. The law of supply and demand takes care of the price. The bureau, however, is vitally interested in seeing that the customer gets what he orders. The entire structure of advertising and selling which is the mainstay of our modern economic life is predicated upon the consumer's inherent right to believe the advertised messages. If the public is to become skeptical of advertising and selling through bitter experience with unethical and dishonest merchandisers, then there is little hope for the progress of business generally or for the petroleum industry in particular.

"The bureau is waging an active war against the substitution racketeer. This type of fraud must stop and the bureau will continue to bend every effort in bringing this malicious practice to an end. Dealers as well as the public are urged to report evidence of substitution to the bureau so it may assist the industry in maintaining its standards and continue to serve the public with the high quality merchandise which the public is willing to pay for and expects to receive in return for its money."

ONTARIO FUEL OIL TAX

CHATHAM, Ontario, May 7.—The tax of one-half cent per gallon on fuel oil, provided at the last session of the Ontario legislature, has not been proclaimed, and according to a recent report of the Canadian Manufacturers Association, there is a strong probability that it may not be made effective.

SHELL COMPANIES CONTINUE IN OPPOSITION TO THIRD GASOLINE

The Shell companies continue in their opposition to the distribution of a third-grade gasoline although subsidiary companies have been forced to introduce the third grade at their stations to meet competitive conditions at some points, according to J. C. Van Eck, president of the Shell-Union Oil Corp., holding corporation for the Shell interests in this country.

"Your California subsidiary has consistently refused to follow the unethical practices pursued by some marketers and throughout the year it has endeavored to maintain reasonable prices for its products even though by so doing it has taken a shrinkage in its volume of sales," Mr. Van Eck said in his annual statement to stockholders covering 1931 operations. "Successful efforts were made to reduce marketing cost without any impairment of the service for which the company is noted and, in the long run, it is believed that the policy followed will prove to be the only profitable one.

"In the Mid-Continent conditions remained highly unsatisfactory. Distress crude bought at less than current posted prices, principally in the East Texas Field before the attempt to apply curtailment there was successful, resulted in some refiners selling gasoline at such low prices that those who had purchased crude at the regular posted prices suffered severe losses in meeting their competition. Distress gasoline, mainly derived from the same source and unloaded by overstocked refiners, had a similarly demoralizing effect upon the retail price structure.

"As the year progressed it became increasingly evident that evasion of gasoline taxes was responsible for the low prices at which gasoline was sold by many so-called independent dealers and concerns, to a far greater extent than had been generally realized or believed possible. This condition strikes deeply at the welfare of the entire industry and exercises a far-reaching influence on the operations of even the most strongly intrenched companies. Without some sweeping correction of this evil the industry must face continued demoralization of its markets.

"Owing to the increasing quantities of gasoline (generally of an inferior quality) thrown on the market at unremunerative prices, much of which was manufactured from crude oil purchased below posted prices, certain companies commenced last spring to market a third-grade gasoline at competitive prices. The movement originated in the Mid-Continent, but rapidly spread throughout the United States east of the Rocky Mountains, and has now extended to certain areas on the Pacific Coast. Relying, as it has always done, upon the quality of its products, your company has joined this movement with great reluctance, being convinced that the correct method of meeting the competition of an inferior product at an unremunerative price is by the sale of a first-class product at a fair price. At a time of oversupply it seems illogical to increase stocks by the manufacture of a low-grade product, of which a larger yield can be secured from a barrel of crude oil, and for which certain of the existing distributing facilities must be duplicated at a large capital expenditure, to say nothing of the increased operating costs involved. It is also doubtful whether, in the end, the user gains anything by buying an inferior article at a low price.

"Notwithstanding reduction in operations by several refiners, stocks of gasoline have been and still are increasing alarmingly. The immediate outlook is, for that reason, unfavorable, and further measures for reducing production of unnecessary gasoline are urgently needed."

CHILEANS MUST HAVE TICKET FOR GASOLINE

SANTIAGO, Chile, May 7.—Rationing of gasoline throughout Chile for "strictly necessary" purposes is planned as an economic measure under regulations for control of foreign exchange. A decree which is expected to cut gasoline sales in half and signed in the ministry of industry provides that gasoline shall become an "article of emergency" obtainable only by tickets issued by a special commission to be directly responsible to President Juan Esteban Montero.

The government, under provisions for control of foreign exchange, has determined to prevent the outflow of gold except where absolutely necessary. Gasoline is sold exclusively in Chile by two foreign firms—the West India, a subsidiary of the Standard Oil Co. of New Jersey, and the Shell-Mex, owned by British interests. The two concerns have served notice that they will import no more gasoline and necessarily will have to raise the price unless they can get gold to send abroad to pay for supplies. They also said they were prohibited from sending any profits outside the country under the foreign exchange regulations.

Anticipating a price rise and a likely stoppage of imports, the government decided on the rationing plan. Under the plan, enough exchange would be allowed to the oil companies to bring in a sufficient supply for those permitted to use gasoline under the decree.

SINCLAIR INAUGURATES ADVERTISING PROGRAM

The Sinclair Refining Co. has started one of the largest advertising campaigns in its history in connection with its program of increasing its sales of motor fuels and lubricants.

Although some newspapers will carry the bulk of the advertising, Sinclair will also use other media such as radio, national magazines and farm periodicals with a circulation total of more than 30,000,000 American families.

Three million Sinclair road maps will be distributed by Sinclair service stations throughout the United States.

The leading feature of the Sinclair campaign this year will be the publicity devoted to the new Sinclair Regular Gasoline, or the "Stepped Up 70" as this new motor fuel is now being referred to by the motoring public. Sinclair recently spent more than $18,000,000 on new refinery equipment to step up the anti-knock quality of Sinclair Regular by 70 per cent.

The Sinclair Minstrels, "a real show played before a real audience," will help to carry the Sinclair gasoline and motor oil message over 35 NBC stations every Monday night. This program, according to Sinclair officials, has the unique distinction of being partially written by its own audience, all of the jokes used being contributions of listeners-in.

Sheffield Leads Opposition to 5 Cent Jersey Tax

C. G. Sheffield, vice president of the Standard Oil Co. of New Jersey has been elected chairman of the Associated Petroleum Industries Committee of New Jersey which will have charge of the fight to prevent an increase in the New Jersey gasoline tax from 3 to 5 cents a gallon. The increase to provide funds for unemployment aid has been agreed upon by the State's governor and legislative leaders. The petroleum committee will be aided by the automobile associations in the State. R. P. Leonard, vice president of the Atlantic Refining Co., and S. B. Eckert, vice president of the Sun Oil Co., are members of the committee.

"The petroleum industry while entertaining the most sympathetic attitude toward effective measures for the relief of distress consequent on unemployment," said Mr. Sheffield, "is compelled to protest with all earnestness against increasing the gasoline tax to 5 cents. It is not pleasant to assume an attitude of antagonism toward any part of a program so laudable, but we know from experience whenever this tax has been excessive it cannot be collected, that the revenues instead of being increased will be reduced, that corrupt and dishonest practices will develop and that the tax fund will be diverted to promoting wholesale gangster and racketeering activities.

"We feel that the menace is so serious we must protest to the utmost this tax increase. The whole national experience shows the disastrous consequences of fixing gasoline taxes so high as to make them a premium on evasion and a subsidy to corruption. The State of New Jersey is so situated as to be wide open for an invasion of gasoline bootleggers the instant this tax is increased. We in the oil industry know that already under a 3-cent tax there is widespread evasion and that gasoline bootlegging has too strong a foothold here that the business of honest gasoline distribution in the State is being seriously undermined.

"With the neighboring states of New York and Pennsylvania levying a 3-cent tax, New Jersey legislators advocating a 5-cent tax are serving notice on extensive trucking interests, gasoline marketers, and its largest industry—the petroleum refining industry—to shut up shop or move elsewhere."

OPEN FIRST STANDARD OIL STATION IN TULSA

Products of the Standard Oil Co. of Indiana were made available in Tulsa for the first time during the past week when the Red Crown Station was opened at the corner of Fourth and Denver Streets. This is the first time that any company carrying the Standard name has retailed products in Oklahoma. The Magnolia Petroleum Co., a subsidiary of the Standard Oil Co. of New York has operated stations in Tulsa for several years.

The new station, which is operated as a dealer account, is the one-stop type. John W. Newbolt, who has been connected with retail marketing in Tulsa for several years, is manager. The station will handle three grades of gasoline, Polarine and Iso-Vis motor oils and Ajax tires. All products will be brought to Tulsa from Bartlesville, where the company operates a bulk station. Subsidiary companies of the Standard of Indiana have several hundred employes in Tulsa.

Brief Items for Petroleum Refiners

Simrall Refinery At Amhertsburg to Start Operations

The new refinery of the Simrall Refining Corp., Ltd., located at Amhertsburg, Ontario, Canada, was completed and started operating during the past week. The refinery operation at present is confined to a skimming unit built by the Foster Wheeler Corp. but later the company expects to install cracking equipment. The crude oil capacity is 3,000 bbls. daily.

The plant is located a short distance from Windsor and was built to serve the oil trade in that section. Part of the crude oil supply will be shipped by tank car from Kentucky fields. The corporation two years ago built a refinery at Horse Cave, Ky., which is now operating.

General offices of the corporation are located in the Union Central Building at Cincinnati, Ohio. W. F. Simrall is president and general manager. R. P. Crothers is secretary and general superintendent of refineries. C. G. Miller is superintendent of the Amhertsburg refinery. C. W. Porter will be in charge of sales for the Canadian plant.

TO MERGE CONEWANGO AND CLARK COMPANIES

WARREN, Pa., May 7.—Announcement was made here this week that the main offices of the Fred G. Clark Co. of Cleveland, Ohio, would be moved and consolidated with the local offices of the Conewango Refining Co. The Clark company owns controlling interest in the Conewango company.

H. R. Lewis, vice president of the Conewango company, in charge of operations at Warren, has been elected president of the company and will remain in charge of operations and refinery sales. J. J. McNerney, president of the Hy-Vis Oil Refining Co., of Los Angeles, is now president of Fred G. Clark, Inc., and vice president of the Conewango.

MAY BUILD CRACKING UNIT

Bobrose Oil & Refineries, Inc., with refineries at Brownwood and Luling, Tex., is planning the construction of a cracking unit according to an announcement by Robert Rose, president. The new unit which the company proposes to build will have a capacity of 5,000 bbls. daily.

Mr. Rose also announced the appointment of Giles M. Bailey as director and manager of sales for the company effective May 1. He succeeds C. F. Watson who recently resigned. Mr. Bailey for a period of 10 years was in charge of retail sales for the Grayburg Refining Co. The Bobrose company headquarters are located in the Alamo National Building, San Antonio, Tex.

COMPLETING VALLEY PLANT

The small skimming plant which the Valley Refining Co. is building at Mission, Tex., will be completed next week according to present plans. The plant will operate with crude oil from the shallow Rio Grande City Field. The crude will be brought to the plant in trucks. Walter K. Campbell of Wichita Falls, Tex., is president of the Valley company.

LIGHTNING DESTROYS TANK

CHICAGO, May 7.—Lightning struck a 6,000-bbl. gasoline tank on the grounds of Globe Oil & Refining Co., 4 miles west of Lemont, Ill., late last night. Nearly 300 fire fighters prevented the blaze, which was fanned by a strong wind, from reaching nearby gasoline tanks.

FACTORS ENTERING INTO COST OF REFINING CANADIAN CRUDE

CHATHAM, Ontario, May 7.—Leo C. McCloskey, director of manufacturing for the Imperial Oil Co., Ltd., in connection with the investigation of Canadian gasoline prices now being conducted by the Parliamentary Committee on Banking and Commerce at Ottawa, explained the factors which enter into the transportation and refining of crude oil at Canadian refineries. The following report summarizes Mr. McCloskey's evidence:

Canadian production in Alberta and Ontario has no great significance as yet in affecting profits or prices. The Sarnia refinery of Imperial Oil buys Canadian crude from the Petrolia wells but is not interested in these wells as a producer. That crude comes to the refinery over a pipe line about 15 miles long and amounts to about 300 bbls. daily out of a daily charge of 21,800 bbls. The refinery buys about 3,000 bbls. of 35 Imperial gallons each daily from the Ohio Oil Co. in the Illinois Field. This crude is bought at the well. In Sarnia the company ran 6,998,387 bbls. of crude in 1930, the volume not coming from Petrolia and Illinois being obtained from the Mid-Continet fields. The 1930 crude cost the company $16,162,830, or an average of $2.31 per barrel delivered.

The gathering charge for crude in the Illinois Field was 20 cents per barrel and the trunk pipe line rate to Sarnia 31½ cents per barrel. The gathering charge in the Mid-Continent Field was 20 cents per barrel and the pipe line rate 62½ cents per barrel, making a total of 82½ cents per barrel. From the East Texas Field the gathering rate was 10 cents per barrel and the pipe line rate to Sarnia 82½ cents per barrel, or 92½ cents in all. The Canadian crude from Petrolia was pumped through the pipe line at a probable cost of 3 or 4 cents per barrel. The pipe line charges were considerably lower than the railway charges.

The pipe line tariff stipulates a certain minimum amount that can be tendered, and that amount is authorized by the Interstate Commerce Commission. Then the oil is taken out of common storage and delivered through the pipe line in 100,000-bbl. lots. If it is a long distance there will be oil consigned to various refineries and a number is placed on the particular tender that is applied for and deliveries are made every day in certain quantities on that tender until the buyer receives the exact amount of crude oil purchased.

The usual way to purchase crude oil is to ask for a definite line allotment, that is, 10,000 bbls. a day or 5,000 bbls. or whatever requirements may be, and to have the crude oil purchased by the purchasing agent, and delivered to the line at that rate, and taken out of the line at the final destination at that rate. The amount allowed to pipe lines for transport in the form of loss between the time it leaves the well and arrives at the destination is 1 per cent of the oil purchased.

Besides the gathering and pipe line charges a buying commission is paid to the buying agent which amounts to 5 cents per barrel in the Mid-Continent Field; in the Illinois Field, where Imperial Oil buys direct from the producer, the Ohio Oil Co., there is no buying commission. There is at the present time an excise tax on this crude oil as well, but in 1930 there was not such a tax.

The total gasoline produced in Sarnia in 1930 from this crude oil was 51.75 per cent, made of various grades of gasoline, specialties and different things such as rubber solvents, cleaning naphthas and many other grades. Some 5.99 per cent was lost in evaporation in the distilling operations.

Of the 51.75 per cent in gasoline obtained the natural yield was 30.88 per cent and the cracked gasoline 20.87 per cent. The natural gasoline is the gasoline that can be taken from the crude by distilling it at atmospheric pressures. After it is taken off there remains kerosene which is distilled under atmospheric pressure, also lubricating distillates, wax distillates and numerous other distillates that the crude contains. In order to get more gasoline from the crude it is necessary to resort to cracking under high temperatures and high pressures, an expensive operation. Imperial Oil distills at the refineries now at about 960 temperature and 1,000 pounds pressure.

In cracking operations the refinery starts on lower pressure and then steps it up. This minimizes the losses in distillation. There are about four processes in the cracking operation. As well as the distilling of the crude and the distilling of the oil there are various cuts of distillate which must be re-run and it is a continual sifting out process to segregate fractions of like nature and keep them together.

The pipe lines deliver 100 per cent of what the refineries purchase, and the producer stands the loss of 1 per cent in transportation. Purchases are made by refineries on the basis of a posted price. Purchasing companies who are located in the Mid-Continent and other fields post a price that they will pay the producer at the well for delivery through the gathering lines to the bulk tankage in the field. The buying companies work on a commission basis of 5 cents a barrel and it is a competitive business. Some of them have their own production but in addition to that they buy crude from the small producer.

In the case of the Mid-Continent Field the pipeage charges from the field to the Gulf, that is, the rate to tanker loading points, consist of 12½ cents gathering, 20 cents pipeage, the West Dallas, Tex., buying commission of 5 cents making the price at West Dallas 37½ cents above the well price of the crude. If that crude is delivered to Houston and Port Arthur from the Mid-Continent Field, the gathering charge is 12½ cents, pipeage 37½ cents and the buying commission 5 cents, making a total of 55 cents above the well price.

In the case of shipments from Peru and Colombia to these points, International Petroleum Co. has to transport the crude to the seaboard and the charge is 35 cents per barrel on Peruvian crude above the well price of Mid-Continent. In the case of Colombian crude, it is transferred from the field 335 miles by pipe line located adjacent to the Magdalena River. The crude is transported to Cartagena. The differential is 37 cents per barrel over Mid-Continent crude.

BULLETIN ON SAFETY

The U. S. Bureau of Mines of the Department of Commerce has issued a bulletin on "Selecting and Training the Refinery Personnel to Prevent Accidents." The report which is based on investigations by R. L. Marek, San Francisco, gives a detailed study of the various methods used to train plant employes to avoid accidents. The bulletin (R.I. 3,-164) is available from the bureau.

Appoint Receivers For Producers and Refiners Interests

The Consolidated Oil Corp., holding company in the recent merger of Sinclair and Prairie companies, has filed a bill of complaint in federal court at Fort Scott, Kans., asking a receivership for the Producers & Refiners Corp. The latter company for several years has been controlled through stock ownership by the Prairie Oil & Gas Co. and has maintained its headquarters at the Prairie Building at Independence, Kans.

The complaint alleges that notes of the Producers & Refiners Corp. which were secured by the Prairie company are now due and the corporation is unable to meet its obligations. The indebtedness totals $10,134,440. A similar action was brought in federal court at Tulsa and L. R. Crawford, president of the Producers & Refiners Corp., and P. C. Spencer were appointed receivers by Judge Kennamer. The receivership was not contested by defendant company.

The Producers & Refiners Corp. has producing properties including large gas holdings. Two refineries are operated at Parco, Wyo., and West Tulsa, Okla. The corporation also owns interests in jobbing companies. The corporation was organized by the Kistler interests, the Prairie company securing a stock control in 1923.

It is believed that the court action will result in the properties being absorbed by the Sinclair and Prairie subsidiaries of the Consolidated Oil Corp.

REFINERS WILL VISIT BUREAU OF STANDARDS

The annual visit of the Department of Standards and Tests of the National Petroleum Association to the Bureau of Standards at Washington, D. C., will take place June 10 and 11, according to an announcement of the association. Headquarters for those attending the meeting will be at Shoreham Hotel at Washington, D. C. Special rates have been secured at the hotel.

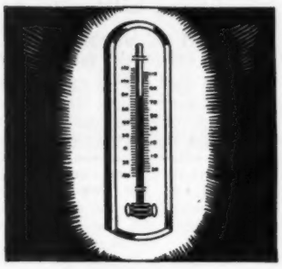
A group dinner will be held Friday evening, June 10, in the west ballroom of the Shoreham at 7 p.m. The two-day program will be divided as follows:

Demonstrations of Tests — This part of the program will start the day and will consume all morning and the early part of the afternoon. Particular stress is to be given to describing exactly how the readings should be taken.

Interpretation of Tests—It is planned to have the reason for the particular tests explained in detail at the conclusion of all demonstrations. These interpretations are to be given by the bureau's experts. The purpose is to point out the significance of the test and to show what it means from a commercial standpoint. The text to be used in interpreting these tests will be that published by Committee D-2 and will cover the things that the average tester should know.

Discussion of Analytical Problems—This will follow the dinner in the evening. It is recognized that every laboratory has trouble with certain tests. It is also recognized that every laboratory has particular questions troubling them. It is therefore planned to solicit from every company a particular question which they would like to have discussed by the bureau's experts. When they are collected in this office they will be turned over to Doctor Dickinson, who will parcel them out to the man most qualified to discuss the problem.

Saturday morning will be devoted to informal visits to the bureau.



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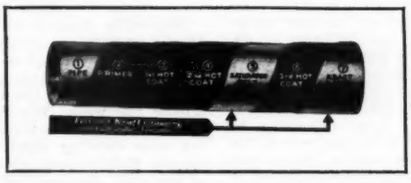
You can't depend on the weather man. When it rains or there is a heavy dew during the night, work in the field must stop or valuable time must be taken to dry the pipe thoroughly before field wrapping and coating can proceed. But the General Paint Corporation's Hill-Hubbell Process of mill-wrapped pipe completely guards against these irregularities.

The pipe is wrapped at the mill. Weather conditions are uniform. Great, skilfully designed machines apply coating and wrapping at a scientifically regulated temperature. The inexactness of human handling is eliminated. Labor costs are reduced. 5000 miles (over 15,000 carloads) of Hill-Hubbell mill-coated and wrapped pipe have been laid successfully by the largest gas and oil companies in the United States. These companies have found that Hill-Hubbell protected pipe not only eliminates the wastefulness and incompleteness of field-wrapped pipe, but actually increases the speed and lowers the expense of installation.

The Hill-Hubbell patented system of loading, protecting every joint, keeps pipe in perfect condition during unloading and installation.



For complete information write to any of the offices of the General Paint Corporation.

Plants for coating and wrapping by the Hill-Hubbell Process are located in the following cities for the production of the pipe manufacturers listed:

CENTRAL TUBE COMPANY
Ambridge, Pa.

JONES & LAUGHLIN STEEL CORP.
Aliquippa, Pa.

NATIONAL TUBE COMPANY
Lorain, Ohio

REPUBLIC STEEL CORPORATION
Youngstown, Ohio

SPANG-CHALFANT & COMPANY
Ambridge, Pa.

YOUNGSTOWN SHEET & TUBE CO.
Indiana Harbor, Ind., and Youngstown, Ohio

HILL-HUBBELL DIVISION OF

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CORPORATION

New York, 11 Broadway.
Chicago, address Hill-Hubbell & Co., 105 West Adams Street.

Portland, Ore. | Seattle, Wash. | Houston, Texas | Spokane, Wash.

Tulsa, Oklahoma.
Los Angeles, 544 Mateo Street.
San Francisco, 160 Fremont St.

East Coast Market Continues Upward

New Jersey Standard Advances All Gasolines One-Half Cent. Stock Situation Obtains More Recognition

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Suite 2803, No. 19 Rector Street

NEW YORK, May 9.—Further upward revisions in refinery gasoline prices at principal East Coast ports were put into effect during the past week, bringing the market one-half cent per gallon higher on all grades. The increase was initiated by Standard Oil Co. of New Jersey on May 7, with other refiners following the action of the New Jersey company. The latest increase follows the strengthening in the tank car market evident over the past week, and is expected to be the forerunner of a general advance in tank wagon and service station gasoline prices throughout eastern seaboard territory.

There is a growing recognition on the part of all interests engaged in refining and marketing on the Atlantic Seaboard of the need for further curtailment of refinery stocks, and it is expected that continued curtailment of refinery runs will be witnessed well into the summer months. Refiners are holding down their processing forces and some of the plants in this area will shut down some of their units entirely during the vacation period, concentrating operations at their newer and more modern stills. Owing to the universal recognition of the necessity for continued conservation in gasoline production, it is considered likely now that some of the contemplated construction of new refining units, capable of producing high octane number gasoline, may be deferred until the latter part of the year. Owing to the desire on the part of many companies to limit capital expenditure during the present depression in the industry, some refiners are showing a tendency to stress the new high ethyl standards in their marketing operations, countering the high octane publicity of some of their competitors.

The "off again, on again" proclivities of the oil tariff advocates in Congress are keeping the industry in a continued position of uncertainty with respect to the oil tariff question, although it is generally believed that an oil tariff in some form or shape is almost certain to come out of the hodgepodge of legislative discussion in Washington. Fuel oil marketers, who had held off naming furnace oil contract prices for 1932-33, pending settlement of the tariff question, started early last week to line up contract business for next season, quoting the same price levels as in effect during the season just ending. This contracting was not general, however, other marketers preferring to defer action until final settlement of the tariff question.

Considerable interest was shown in oil trade circles over the visit here of leaders of the Soviet oil trust and several prominent officials of the Royal Dutch-Shell organization. Standard of New York and Vacuum have both been distributing large quantities of Soviet oil in foreign markets, under long term contracts, and while the visit of the Russian oil leaders at this time is ostensibly for the purpose of conferring with Socony-Vacuum executives on this tieup, it is expected that the international situation, with respect to the outlook for possible clarification of some world petroleum problems, will be taken up in detail in intercompany conferences during the visit of the foreign oil men.

Tank Car Gasoline

Advances on one-half cent per gallon on U. S. Motor gasoline at principal East Coast shipping centers featured the week's market. The increases were made effective on May 7, and included both the high octane number grades and gasoline under 65 octane. Other refiners and marketers are following the advance, which was initiated by the Standard Oil Co. of New Jersey, and the market undertone is definitely strong at the higher price levels.

The latest advance brings the inside posted quotations for gasoline in tank car lots up to 6¾ cents per gallon for gasoline under 65 octane number, 7 cents for 65 octane motor fuel, and 7¼ cents a gallon for Jersey's top grade, which corresponds to the top grades of other leading refiners operating in the East.

Effective May 4, Standard Oil Co. of New York advanced its tank car gasoline price at Buffalo to 6¼ cents per gallon, an advance of one-quarter cent over the previous quotation and followed with a second advance, to 6½ cents, on May 5. Other sellers operating in the Buffalo area followed suit.

With the reopening of navigation in the New York State Barge Canal system there has been a heavy movement of gasoline to up-State markets, via the barge canal, and it is reported that shipping operations in the canal at Syracuse, where the Susquehanna gasoline pipe line touches the waterways system, have also received considerable impetus. While sellers are quoting gasoline in barge lots at a quarter to a half cent under the tank car basis in some instances, some large sellers are making no differential, and quoting barge lots on a parity with tank car markets.

Thus far, the expected flood of low octane gasoline into East Coast markets has failed to materialize, and "third grade" gasoline is not much of a factor locally. Some interests here are of the belief that the firm market for low grade gasoline in the Southwest will militate against any substantial "dumping" of this material on the Atlantic Seaboard. Another factor which is expected to restrict the distribution of this product is seen in the fact that the current economic depression has affected many interests which in former years were inclined to "take a flyer" in the cargo market. Then, too, the difficulty in obtaining distribution for these so-called "outside" gasolines presents another barrier. From present indications, low grade gasolines will not reach East Coast markets in sufficiently large quantities to threaten the price structure unless the major companies themselves create this hazard through the extensive handling of third grades, and the absorption of distressed lots from other refining centers.

Tank Wagon Gasoline

Saturday's advance in refinery gasoline prices, bringing the market one-half cent higher on all grades, has strengthened the retail market situation considerably, and major marketers are expected to follow almost immediately with announcement of increases in tank wagon and service station price schedules.

There were no price revisions on a general scale in tank wagon and service station markets during the week, although leading marketers continue to make localized advances to bring their schedules up to uniform levels. The general undertone is strong, and a further upward movement, taking in the entire Atlantic Seaboard territory, would not be unexpected.

The gasoline tax problem is causing considerable concern to marketers operating in New Jersey, where a determined effort is being made for a "temporary" increase in the tax rate to 5 cents per gallon, to provide funds for unemployment relief. The major companies distributing in New Jersey are opposing the move, and refinery workers in the large refining centers in that state are up in arms, fearful that the higher rate will increase bootlegging and thus force further curtailments in refinery operations in New Jersey, with resultant lessening of the working hours of refinery forces.

The vacation sections of New England and other points in East Coast territory are coming to the fore as factors in the tank wagon market, and many pumps in these areas which have been idle during the winter months are again being placed in operation. This has greatly extended the operations of marketers, and the number of retail stations now being serviced by the major marketers is larger than at any time previously this year. It is notable that the demand from these sections is running largely to the higher grades of motor fuel thus far.

Another division of marketing which is coming back to life after its winter hibernation is the marine sales departments of leading companies. While attracting little attention, the market for marine fuels and lubs has been constantly increasing in Atlantic Coast waters during the past several years, and the gallonage from this market is steadily growing in importance. Many of the large companies now operate water-front or floating service stations to take care of this business.

Kerosene

Spring demand is making itself apparent in the tank car market, and a stronger undertone is in evidence. Spot 41-43 water white kerosene in tank car lots is showing more steadiness, with refiners quoting 5½ to 6 cents per gallon, the inside quotation representing a quarter cent advance over the price at which business was recently booked.

Tank wagon markets are also more active, as was indicated by the half-cent increase put into effect during the early part of the week by the Standard Oil Co. of New York. Gallonage is steadily increasing, and refiners believe that their spring sales this year will equal or exceed those for the comparable months of the past year.

Lubs

Increasing demand for crankcase oils from motorists has resulted in a further quickening in demand from blenders and compounders, and there was considerable activity reported in the tank car market during the week. The call for cylinder oils picked up substantially, and the market was showing signs of further advances. Bright stocks developed additional strength, and spot prices were higher at 31 to 32 cents per gallon for light 140-150 and 30 to 31 cents for the dark oil.

Export demand for lub oil has also recorded some gains during the past few weeks, the stronger market, with the prospects of further advances, stimulating buyers on the part of foreign distributors, who are generally reported to be carrying subnormal stocks. Much of the recent export movement of cylinder oils out of New York, however, has represented intercompany movement on the part of large American units with marketing subsidiaries abroad. Much of this movement was formerly of cased oil, but a trend toward bulk shipments has been evident during the past year or so, due to the fact that American companies with foreign distributing subsidiaries have constructed case and can plants at strategic points abroad to effect further economies in their distributing operations.

There was a slight increase in the demand for industrial lubs during the week under review, with prices holding steady. Refiners believe that the summer demand for industrial lubs, which normally is under that for the spring months, will reverse itself this year, and a steady, although slow, increase in tank car movement is looked for.

Fuel Oil

Tariff uncertainty is adding to the complexities of the bunker oil situation, but the market undertone continues strong and refiners are quoting the spot bunker "C" market firm at 65 cents per barrel in bulk f.o.b. refinery terminals. Increasing activities in marine circles are making for a larger movement of oil on contract deliveries locally.

Refiners are figuring out bids for Navy Department contracts for bunker oil and Diesel oil which are scheduled to be awarded during the coming week.

The present differential between Gulf and East Coast bunker "C" quotations is but 10 cents per barrel, considerably less than normal, and a logical adjustment would appear to be a further marking up of the East Coast price, which is but 5 cents per barrel under the lowest level in the history of the industry. Shutting out of South American and Mexican fuel and crude oils, or increasing laid-down costs, through the medium of an import tariff, is expected to signalize a further strengthening in domestic fuel oil markets.

Diesel Oil

First quarter gallonage in the Diesel oil market was satisfactory, and current reports indicate that second quarter sales will likewise compare favorably with 1931 totals. Movement was well maintained during the past week, both in the shape of contract deliveries and bookings in the spot market.

Refiners continue to quote 28-30 Diesel oil at $1.30 per barrel, which is only 10 cents per barrel over the Gulf quotation for this oil.

Competition in the Diesel oil market has never been as sharp as has been the case with bunker "C" oil, due to the close specifications of large consumers and their inclination to "stay with" a refiner who consistently meets these specifications. For this reason, contract business is fairly stable, and the spot market reflects this condition.

Sales of Diesel oil in tank car lots for domestic industrial consumption are reported to be running into satisfactory totals.

Gas Oil

A quiet demand for gas oil is reported from industrial consumers, and the market is without change at 4 cents per gallon for 28-30 plus recycled oil. Large industrial consumers in many instances are getting their oil on term contracts at quarter to a half cent under this level.

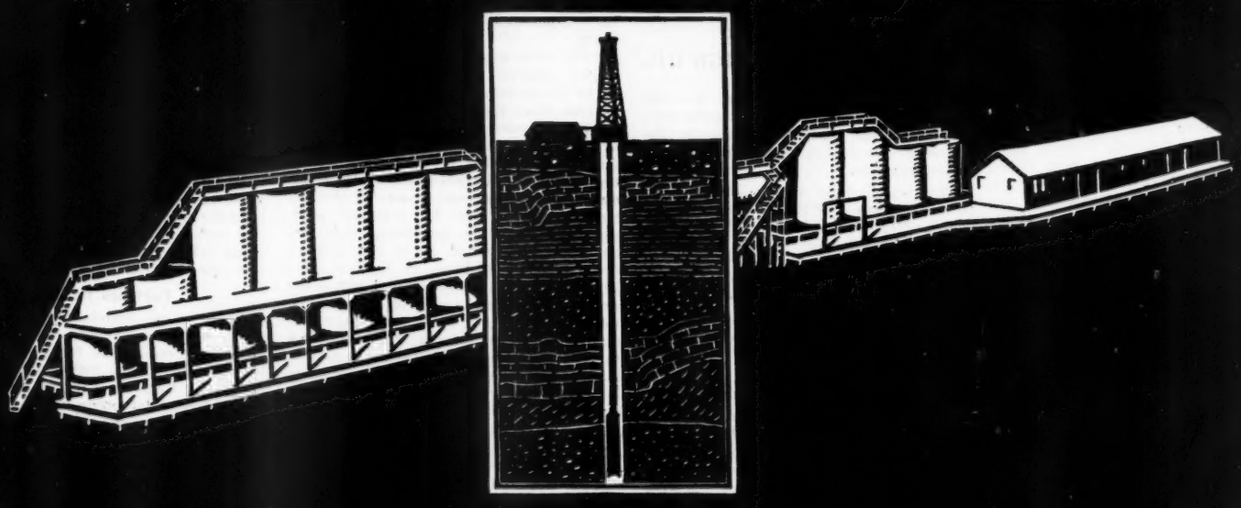
Spot sales of gas oil in the tank car market have likewise shown a seasonal restriction since the first of the current month. Refiners are endeavoring to maintain the statistical position of the gas oil market through a reduction in current output to balance reduced consumption over the summer months.

Furnace Oil

Contract business on domestic furnace oil is being written by some sellers at the same prices ruling during the past season, and it is understood that considerable gallonage has been booked on this basis. Other sellers, however, have not yet named quotations for next season and will not book at fixed prices until the tariff question is definitely out of the way.

Consumption of furnace oil has shown a sharp drop with the advent of mild warm weather, and tank wagon gallonage is steadily shrinking. It is indicated, however, that summer sales this year will establish a new high record, as a number of domestic oil burner manufacturers have developed special hot

From the bottom of the well to your own storage tanks



CITIES SERVICE . . . . a complete petroleum unit guards the quality of its products every step of the way

Cities Service experts keep constant control of the dependable quality of their products because every step—from the time the oil leaves the ground until the finished product reaches your bulk plant—is under their strict supervision.

Cities Service oil subsidiaries form a complete petroleum unit—produce the crude from their own wells—transport the crude through their own pipe lines and on their own fleet of ocean tankers—refine the crude in their own great, modern refineries and ship the finished products to you in their own tank cars and tank trucks.

This relentless guarding of quality means profit to you for it is the builder of satisfied customers and increasing repeat business. Write to CITIES SERVICE, 60 Wall Street, New York City, or to the nearest subsidiary listed below.

Cities Service Petroleum Products are available through the following subsidiaries and refineries:

Name	Headquarters
CITIES SERVICE OIL COMPANY (Delaware)	Tulsa, Okla.
CITIES SERVICE OIL COMPANY (Michigan)	Adrian, Michigan
CITIES SERVICE OIL COMPANY (Ohio)	Cleveland, Ohio
CITIES SERVICE OIL COMPANY, LTD.	Toronto, Ont., Canada
CITIES SERVICE REFINING COMPANY	Boston, Mass.
CREW LEVICK COMPANY	Philadelphia, Pa.
EMPIRE OIL AND REFINING COMPANY	Tulsa, Okla.
INTER-STATE OIL COMPANY	La Crosse, Wis.
LINDSAY-McMILLAN COMPANY	Milwaukee, Wis.
LOUISIANA OIL REFINING CORP. (LORECO petroleum products)	Shreveport, La.
C. H. LOCKWOOD OIL COMPANY	Kenosha, Wis.
A. R. NEWCOMBE OIL COMPANY	Kingston, N. Y.
WINONA OIL COMPANY	Winona, Minn.
AUTO GAS AND SUPPLY COMPANY	Winona, Minn.

Refineries

CITIES SERVICE REFINING COMPANY	East Braintree, Mass.
CREW LEVICK COMPANY	Petty Island, N. J.—Titusville, Pa.
EMPIRE OIL AND REFINING COMPANY	Ponca City, Okla.—Okmulgee, Okla. Gainesville, Texas—East Chicago, Ind.
LOUISIANA OIL REFINING CORP. (LORECO petroleum products)	Bossier City, La. Gas Center, La.

CITIES SERVICE OILS

ONCE - ALWAYS

Crew Levick Company, one of the principal eastern marketing and refining subsidiaries of Cities Service Company, began refining petroleum products more than 70 years ago—just 3 years after the famous Drake Well was discovered. This company owns and operates two refineries: one at Titusville, Pa., where it refines KOOLMOTOR, the perfect Pennsylvania Motor Oil; the other at Petty Island, N. J. Crew Levick Company also markets Cities Service products through stations and dealers in eight states. Crew Levick's background of practical experience dating back to the very founding of the oil industry is one of the factors that have produced the high quality in Cities Service products today.

Cities Service Oils and Gasolene

water heating attachments for their burners, and have completed many installations. These water heaters, it is claimed, will furnish the householder hot water at about half the cost of gas water heaters. This development is in line with the movement to make furnace oil marketing a "year-round" proposition.

Wax and Petrolatum

There were no price changes on either paraffin wax or petrolatum reported in the local market during the past week. Domestic buying continued along curtailed lines, but a slight improvement in export demand was reported.

Gulf Export Market

Export kerosene has advanced further at the Gulf, with 41-43 prime white quoted at 4⅝ cents, up one-eighth, with 41 water white showing a corresponding increase at 4¼ cents per gallon. Gasoline quotations remain unchanged on all grades.

No cargoes were fixed for export during the week, and the only inquiry was for a part cargo of 64-66 for June shipment to France, which had not been closed up to the time of writing.

Rumania has revised its export gasoline prices upward, Constanza quotations as of April 21 being $15.86 per ton for 730 gravity gasoline, an advance of 51 cents per ton, and $11.13 per ton for heavy gasoline, up 44 cents from the previous quotation. Lamp oil was also higher, at $6.15 per ton, an increase of 20 cents.

There is some feeling in local export quarters that Rumanian and Russian export prices will be advanced to a par with the American Gulf market as a result of the visit here of leading Russian oil men and several representatives of the Royal Dutch-Shell group, although thus far there has been no definite announcement of an accord in world market prices.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended April 30 totaled 1,635,000 bbls., a daily average of 233,571 bbls., compared with 3,459,000 bbls., a daily average of 494,143 bbls. for the previous week, and a daily average of 337,714 bbls. for the four weeks ended April 30. Details follow:

	Bbls. of
At Atlantic Coast Ports—	
Baltimore	246,000
Boston	67,000
New York	615,000
Philadelphia	286,000
Others	236,000
Total	1,464,000
Daily average	209,143
At Gulf Coast Ports—	
New Orleans and Baton Rouge	171,000
Total	171,000
Daily average	24,428
At all United States Ports—	
Total	1,635,000
Daily average	233,571
Daily average four weeks	337,714

Distribution of total imports for the week ended April 30 follows:

Crude	1,042,000
Gasoline	119,000
Gas oil	53,000
Fuel oil	421,000

Petroleum Exports

Routine movement of refined products into export channels was reported during the week ended April 30, the only development of the week being a heavy shipment of fuel and gas oil. Exports of lub oil were also up for the week.

The following table shows refined petroleum exports from the port of New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Apr. 30	Apr. 23	Apr. 16
Gasoline	23,000	55,000	15,000
Naphtha	3,000	320,000	7,000
Kerosene	8,000	25,000	7,000
Fuel and gas oil	1,270,000	68,000	15,000
Lubricating oil	1,848,000	898,000	654,000
Petroleum, ref'd	370,000	385,000	230,000
	Pounds		
Petrolatum		13,000	
Paraffin wax	595,000	2,050,000	2,490,000
Refined	60,000		30,000
Scale		70,000	100,000
Lub. grease	375,000	945,000	730,000

Export operators reported that foreign buyers were showing a continued unwillingness to operate ahead, and most of the week's business consisted of small lots for immediate delivery. Contract shipments to foreign marketing affiliates by the large integrated companies are accounting for the bulk of the export movement out of New York.

California Oil Receipts

There was only one cargo of California refined petroleum received in the East during the week, consisting of 70,000 bbls. of gas oil landed at Baltimore. This was a daily average of 10,000 bbls., and compared with 211,000 bbls., or 30,143 bbls. daily, during the previous week and a daily average of 33,786 bbls. for the four weeks ended April 30.

No shipments of California refined oil for Atlantic or Gulf Coast ports were reported cleared during the past week.

INCREASE IN STOCKS DUE TO FOREIGN OIL

WASHINGTON, D. C., May 9.—The Bureau of Mines Monday reports that production of crude petroleum in the United States during March amounted to 67,189,000 bbls.

This was a daily average of 2,167,000 bbls., an increase of 12,000 over the daily average for February but 72,000 bbls. daily below the daily output of March, 1931.

Stocks of crude petroleum increased 2,466,000 bbls. during the month, due entirely, the bureau said, to gains in inventories of foreign crude. Stocks of domestic crude were drawn upon to the extent of about 700,000 bbls.

Domestic production follows:

Crude petroleum, 67,189,000 bbls. compared with 62,484,000 in February and 69,397,000 in March, 1931; natural gasoline, 3,198,000 in March against 3,148,000 in February and 4,048,000 in March, 1931, and benzol, 124,000 bbls. against 119,000 in February and 194,000 in March, 1931.

Imports of crude petroleum were 4,840,000 bbls. in March, 4,708,000 in February and 3,715,000 in March, 1931, and imports of refined products were 4,028,000 bbls. in March, 3,536,000 in February and 4,065,000 in March, 1931.

The total demand during March was 79,400,000 bbls., compared with 73,036,000 in February and 82,966,000 in March, 1931. Exports of crude petroleum totaled 2,090,000 bbls. in March, 1,897,000 in February and 1,586,000 in March, 1931, and refined products exported totaled 7,051,000 bbls. against 5,892,000 in February and 7,241,000 in March, 1931. The domestic demand was 70,259,000 bbls. in March, 65,247,000 in February, 74,139,000 in March, 1931.

The total of all stocks of oil in the country was 633,107,000 bbls. in March, compared with 633,128,000 in February and 656,833,000 in March, 1931. The stocks on hand were estimated by the bureau to be the equivalent of 247 days' supply.

STANDARD OF INDIANA REPORT RECOGNIZES HOPEFUL ASPECTS

Commenting on conditions in the oil industry the annual report of the Standard Oil Co. of Indiana, says:

"Financial reports of oil companies which have already been made public reveal that the oil industry in 1931 passed through one of the most disastrous periods in decline of earnings in its entire history of service to the public. Many companies report staggering losses, while the most efficient and fortunate have had to see their earnings reduced materially in comparison with 1930 and earlier years.

"This outcome on the year's business cannot properly be explained as due solely to the general economic recession. It is true that the demand for petroleum products needed as raw materials, fuels, or lubricants in the manufacturing industries has fallen off in proportion to the decline in the activities of those industries. By contrast, however, the demand for motor fuel, the principal product offered by the petroleum industry, has been maintained as in the case of few other commodities in today's markets. Had prices of motor fuel and other products continued at profitable levels, the oil industry would have been enabled by this continuing strong demand to achieve earnings in 1931 nearly as satisfactory as those of 1930 and to serve industry in general as a stabilizing force against the main current of the depression. It is a rueful evidence of the destructive character of the unrestrained and relentless competition dominating the oil business that such results were not gained. Determined to enlarge their volume of business at any cost, many marketers resorted more than ever in the last year to unjustifiable reduction of prices of their products. As their prices were met by competitors striving to hold their gallonage, the prospect of fair profits was eliminated for all concerned.

Price Cutting

"Toward the price-cutting tactics pursued in unprofitable 1931 your company adopted what its directors believed to be a conservative and sound policy. It abstained from initiating price reductions. Where necessary and advisable the reductions made by competitors were met, but in following the downward trend your company held to the rule that it would sacrifice gallonage rather than meet competition at ruinously low levels. The consequence of this policy will be noted in a smaller volume of total business reported, but this figure cannot be properly understood or interpreted without putting the results as to net earnings of your company alongside those of its principal competitors.

"While ruthless chiseling of prices continues to be a dominant factor in the marketing of oil products in 1932, the situation is not without its hopeful aspects. The industry has already recognized the benefits gained by adoption of a co-operative attitude in the production of crude oil. Chaos in production has been turned into orderly control which is rapidly improving the basic condition in regard to the supply of raw material. With this solid foundation for constructive efforts it is perhaps not too much to hope that eventually the industry will be able, in marketing also, to eliminate reckless, wasteful, and unsound practices which are costly to all and to substitute instead reasonable and sensible policies which will permit all to earn a fair profit without essential change in relative standing as to volume of sales.

"Your company has co-operated fully in the long effort by which progress toward improved conditions has been made in the production and refining phases of the industry and will do its share to bring about comparable betterment of the conditions of marketing."

Earnings for Year

Earnings of Standard Oil Co. (Indiana), including its share of earnings of subsidiary companies for the year ending December 31, 1931, was $17,596,396.25, or $1.04 a share on the 16,908,543 shares outstanding, after deductions for Federal income and foreign taxes, depreciation, depletion and all other reserves, according to the annual report of the board of directors. Closing inventories of petroleum products were valued at the lower of cost or market price causing a downward adjustment of $6,101,529. Lowered realizations for crude oil were said to be a leading factor in causing 1931's reduction in net earnings.

Dividends of $25,481,075.23 were paid by the parent company in 1931, the report continues, or at a rate of $1.50 a share. The dividend of 25 cents paid March 15, 1932, was at the rate of $1. Payment of 1931 dividends resulted in drawing upon consolidated majority interest surplus for an amount of $7,884,678.98 in excess of majority interest of 1931 consolidated net earnings. The balance sheet shows net working capital of $214,897,727.50, including cash and marketable securities totaling $89,163,504.69. Total current assets were $243,687,22859 as of December 31, 1931, against current liabilities of $28,789,501.09, the ratio being 8.46 to 1, as compared with the ratio of 5.4 to 1, of the 1930 balance sheet. A reduction of nearly $10,000,000 was effected in the amount of the funded debt through calling of $5,000,000 of Stanolind Crude Oil Purchasing Co. bonds on July 1, and through taking advantage of unusual conditions in the bond market to purchase bonds of subsidiary companies at advantage. The company also purchased in the open market at considerably below par value, 86,552 shares of its own stock, which were retired, the equity value of every stockholder's share in the company being increased through the transaction.

Investments in the stock of Petroleum Heat & Power Co., Petroleum Storage & Finance Corp., and others, the report shows, are responsible for the increase of approximately $6,800,000 in the assets shown for investments in nonaffiliated companies. Holdings in the Near East Development Corp. were disposed of in 1931.

Tax Burden

Approximately $7,584,000 were paid out (or accrued) by the company in the form of foreign, Federal, state and local taxes. Gasoline taxes collected and paid to the various state and municipal governments imposing them amounted to $46,398,908, as compared with $47,651,658 in 1930. A computation, according to the report, reveals that 15.5 per cent of all gross income of the company was paid out in 1931 in the form of taxes, while 5 per cent of the gross represents

GULF PORT SHIPMENTS SHOW LARGE DECLINE DURING MARCH

By Nell Williams

HOUSTON, Tex., Apr. 25.—A decrease of 2,655,411.41 bbls. was reflected in shipments of oil from Gulf Coast ports during March. Total shipments were only 17,470,523.92 bbls. compared with 20,125,935.33 bbls. during February although the latter month was shorter. The decline was due largely to the drop in coastwise movement of crude. Shipments for March were:

	Crude		Refined		
Company and terminal—	Coastwise (bbls.)	Export (bbls.)	Coastwise (bbls.)	Export (bbls.)	Total (bbls.)
Atlantic Oil Prod. Co., Atreco	879,552.09	.....	.....	.....	879,552.09
Gulf Ref. Co., Port Arthur	228,796.74	.....	1,974,240.48	3,996.98	2,207,034.20
Humble O. & R., Baytown	75,772.00	.....	1,268,191.49	1,539,708.22	2,883,671.71
Humble O. & R., Harbor Island	2,276,042.00	.....	.....	.....	2,276,042.00
Humble O. & R., Ingleside	128,938.00	.....	.....	.....	128,938.00
Humble O. & R., Neches	74,981.00	.....	.....	.....	74,981.00
Humble O. & R., Texas City	239,468.00	.....	.....	.....	239,468.00
Magnolia Pet. Co., Beaumont	*411,494.09	.....	*1,894,760.33	.....	2,306,254.42
Pure Oil Co., Smiths Bluff	288,655.56	.....	468,698.46	166,264.05	923,618.07
Standard Oil Co. (La.), Baton Rouge	336,357.00	73,103.00	479,425.00	650,735.00	1,539,620.00
Sun Oil Co., Sabine Pass	922,869.43	.....	.....	.....	922,869.43
The Texas Co., Port Arthur	324,004.00	126,752.00	1,760,129.00	377,590.00	3,088,475.00
Total March	6,686,929.91	199,855.00	7,845,444.76	2,738,294.25	17,470,523.92
Total February	9,123,143.98	124,014.00	8,122,432.77	2,756,343.58	20,125,935.33
Difference	2,436,214.07	75,841.00	276,989.01	18,049.33	2,655,411.41

*Includes coastwise and export shipments.

the earnings for stockholders. The report continues:

"At the end of 1931 producing subsidiaries held by lease or purchase 198,681 acres of proven oil land and 4,919,686 acres of promising, but unexploited properties, or a total of 5,118,367 acres, as compared with 6,492,483 acres at the close of 1930. The total crude oil production by all companies was 49,866,445 bbls., as compared with 55,078,675 bbls. in 1930.

"Crude oil transported by Stanolind Pipe Line Co. in 1931 was 42,510,120 bbls., as compared with 40,740,693 bbls. in 1930. The pipe line company, which has nearly 4,400 miles of trunk lines and about 2,500 miles of gathering lines, completed in 1931 its first year under full ownership of Standard Oil Co. There was no important changes in equipment for marine transportation. The Pan American Petroleum & Transport Co. is at present operating a fleet of 37 tankers on high seas. These, together with three one-time chartered vessels, moved 32,946,011 bbls. of crude and refined oils in 1931, as compared with 31,872,032 bbls. in 1930. Movement of crude and refined oils by the four ships and one barge operated on the Great Lakes by the parent company totaled 6,717,001 bbls. in 1931, as compared with 7,823,010 bbls. in 1930.

"Manufacturing plants are operated by the Standard Oil Co. and its subsidiaries at 13 points in the United States and 3 abroad. These now have a throughput capacity of 353,000 bbls. a day. The crude oil run in 1931 totaled 93,176,261 bbls. of 42 gallons each as compared with 99,613,851 bbls. in 1930. The reduction in run reflects the company's co-operation in the industry policy to eliminate oversupply of finished products, as well as adjustment to reduce volume of sales.

Sales Report

"Combined sales of Standard Oil Co. of Indiana and its subsidiaries engaged in marketing were, for 1931, 86,971,621 bbls. of 50 gallons each, as compared with 113,999,764 bbls. in 1930. A substantial portion of this loss in volume of sales was in the crude oil sales of Stanolind Crude Oil Purchasing Co. A major portion of this company's sales in 1930 was to outside interests, but in 1931 deliveries were confined largely to Standard Oil Co. (Indiana).

"For its wholesale and retail distribution of petroleum products the Standard Oil Co. of Indiana group had on December 31, 1931, 4,821 bulk stations and 14,262 owned or controlled service stations in the United States. Of these, 4,313 bulk stations and 10,308 service stations were in the 13 central northern states where the parent company markets extensively in its own name. Connections with dealers provide many thousands of additional outlets. Marketing organizations abroad own or control 15 ocean terminals, 78 bulk plants, and 115 service stations. In the course of the year an increase in marketing facilities in foreign countries was gained through the purchase of stock interests in the Petroleum Storage & Finance Corp., Ltd., of Manchester, England."

The extensive research and development work of the company in 1931 was not reported in detail, due, it is said, to the secret character of various processes involved. The construction by the company at its Whiting refinery of probably the largest combined skimming, cracking, reforming and viscosity breaking unit in the country (to be completed by August 1) is mentioned. A patented synthetic lubricating oil which is said to have special qualities not available in other oils will soon appear on the market, according to the report.

NEW MARLAND COMPANY?

An unconfirmed report that Ernest W. Marland, whose company passed into the hands of the Continental Oil Co. a few years ago, will head a new company bearing his name, was reported in Ponca City, Okla., his home.

Mr. Marland has been associated with E. W. Marland, Inc., an oil concern for several years, with headquarters at Ponca City. The new company, it is said, is to be separate.

H. M. DAWES DISCUSSES PETROLEUM SITUATION

President Henry M. Dawes, of the Pure Oil Co., in his annual report says:

"The Pure Oil Co., in effect, handles nearly all of its product through the complete cycle from the oil sand to the retailer. For this reason its profits are almost entirely based upon the retail prices of its finished products.

"During the last year the average service station price of gasoline in the United States was 3.24 cents less than realized in the previous year, 5.07 cents less than the average for the last five years, and 7.19 cents less than the average for the last 10 years. As gasoline is the most important commodity of the industry, it naturally affords the best price barometer for all products.

"The sales of gasoline of the Pure Oil Co. in the past year were considerably in excess of 500,000,000 gallons. From this it is obvious that an increase of even 1 cent a gallon over the average price last year would have a very material effect upon the net earnings of the company.

"It is the general opinion in the industry that the prices which prevailed in 1931 were abnormally low, and the averages for the previous years confirm this. General conditions would seem to require the maintenance of a higher price scale during the current year.

"The unfavorable conditions which have prevailed in the industry may be attributed more largely to the overexpansion of marketing facilities, taxation and overproduction than to the adverse effects of general business conditions, great as this last factor has been.

"The marketing of petroleum products in recent years has been in a deplorable state. The building of service stations has not only exceeded the limits required for public convenience, but reached the stage where their multiplication has become a public nuisance. Thoroughly bad marketing practices have become general. Probably the worst of these is that of offering wholesale discounts through retail facilities.

"The probabilities are that the original cause of this condition was occasioned by the pressure of excessive crude upon the market.

"The producing problems seem to have been met in a much more intelligent and resolute way than those of marketing, and as a result of this the producer is receiving a larger share of the total recovered price than has been customary under normal conditions. He is not receiving, however, more than a living wage. Recent advances in the price of crude will have the general effect of narrowing the margins to the other branches of the industry and give them less leeway for the indulgence of wasteful practices. A disposition towards more sane and reasonable practice has been decidedly more manifest in the past year. Very much more is to be desired, but progress has been made.

"To a degree that has never been reached in the United States before the matter of taxation controls business activities today. The total tax burden would be less serious were it not for the disposition to spread it inequitably. Presumably because of apparent ease of collection, the users of automobiles and those industries which serve them have been discriminated against to a degree that will result in curtailing their development and growth.

"As indicative of the extent to which this has gone it is interesting to note that $1,022,000,000 is estimated as the tax collected from the industry in 1931. The stupendous amount of this figure can best be realized by comparison with some governmental expenditures. It is about equal to the total receipts of the United States Government, exclusive of interest and sinking fund, in 1917. It is equal to almost two-thirds of the United States Government budget, exclusive of debt requirements and expenditures attributable to past wars, such as veterans' relief, and other similar items. It is four times as much as the annual payments due the United States on foreign debts. The gasoline tax alone is twice the amount due from these sources.

"Very great progress has been made in bringing about orderly production, and much has been accomplished in marketing, but at the present time the greatest menace to the whole automotive structure is that of discriminatory taxes. The public is becoming aroused to the facts and the motorists of the country are protesting vigorously.

"The general opinion of the industry is that the scale of prices during the last year was abnormally low, and that there is small prospect that as low prices will ever prevail again for any considerable period. In spite of this the company, in the whole cycle of its operations, was able to make a profit. With even a moderate advance in the prices of refined products the prospects for the future would seem distinctly favorable."

PIPE LINE TO SAXET FIELD

HOUSTON, Tex., May 9.—The first pipe line outlet for the Saxet Field of Nueces County is being provided by the Gulf Coast Pipe Line Co., which is laying 7½ miles of 6-inch pipe from the field to Corpus Christi. At Corpus Christi the company is building terminal facilities for the loading of boats and has under construction one 80,000-bbl. steel tank as a nucleus for a possible future tank farm there. The new line will have a capacity of 20,000 bbls. daily with pumping facilities being provided in the field. The field, now about two years old, has a daily production of around 1,300 bbls.

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO OF CALIFORNIA
(Effective June 23, 1931)

UNION OIL CO. OF CALIFORNIA
(Effective June 20, 1931)

For current purchases of crude oil at the well (unless otherwise specified) for allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee.
(All gravities above those quoted take highest price offered in that field)

Gravity		Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills Buena Vista Hills	Loat Hills	Santa Paula	Orcutt	Gravity
14-14.9	....	$ .65	$ .65	$ .65	$ .65	....	$ .65	....	$ .65	$ .65	$ .65	....	$ .55	$ .55	$ .65	$ .55	14-14.9
15-15.9	....	.65	.65	.65	.65	....	.65	....	.65	.65	.65	....	.55	.55	.65	.55	15-15.9
16-16.9	....	.65	.65	.65	.65	....	.65	....	.65	.65	.65	....	.55	.55	.65	.55	16-16.9
17-17.9	....	.65	.65	.65	.65	....	.65	....	.65	.65	.65	....	.55	.55	.65	.55	17-17.9
18-18.9	....	.65	.65	.65	.65	....	.65	....	.65	.65	.65	....	.55	.55	.65	.55	18-18.9
19-19.9	....	.65	.65	.65	.65	$ .65	.65	....	.65	.65	.65	....	.55	.55	.65	.55	19-19.9
20-20.9	....	.65	.65	.65	.66	.65	.66	....	.65	.65	.65	....	.55	.55	.65	.56	20-20.9
21-21.9	....	.65	.65	.65	.68	.66	.67	....	.65	.66	.65	....	.55	.57	.65	.57	21-21.9
22-22.9	....	.66	.66	*.66	.70	.67	.68	....	.66	.68	.65	....	.56	.59	.65	.59	22-22.9
23-23.9	....	.67	.67	*.68	.72	.68	.70	....	.67	.70	.66	....	.58	.60	.65	.61	23-23.9
24-24.9	....	.69	.69	*.70	.74	.69	.72	$ .69	.68	.72	.67	$ .65	.61	.62	.66	.63	24-24.9
25-25.9	....	.71	.71	*.72	.76	.70	.74	.71	.70	.74	.69	.65	.64	.64	.68	.65	25-25.9
26-26.9	....	.73	.73	*.74	....	....	.76	.73	....	....	.71	.65	.66	.66	.70	.67	26-26.9
27-27.9	....	.75	.75	*.76	....	....	.78	.75	....	....	.73	.68	.68	.67	.72	....	27-27.9
28-28.9	....	.77	....	....	....	....	.80	.77	....	....	.75	.71	.71	.69	.74	....	28-28.9
29-29.9	....	.79	....	....	....	....	....	.79	....	....	.77	.73	.74	.71	.76	....	29-29.9
30-30.9	....	.81	....	....	....	....	....	.81	....	....	.79	.75	.76	.72	.78	....	30-30.9
31-31.9	....	....	....	....	....	....	....	.83	....	....	....	.78	....	....	....	....	31-31.9
32-32.9	....	....	....	....	....	....	....	.85	....	....	....	.80	....	....	....	....	32-32.9
33-33.9	....	....	....	....	....	....	....	.87	....	....	....	.83	....	....	....	....	33-33.9
34-34.9	....	....	....	....	....	....	....	.89	....	....	....	.85	....	....	....	....	34-34.9
35-35.9	....	....	....	....	....	....	....	....	....	....	....	.87	....	....	....	....	35-35.9
36-36.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	36-36.9

Santa Paula and Orcutt—Posted only by the Union Oil Co.

Playa Del Rey—Subject to a field gathering charge of 5 cents per barrel.

Huntington Beach—Union Oil Co.'s price schedule reads: 14 deg ees up to 22.9 degrees, inclusive, 65 cents per barrel; 23-23.9 degrees, 67 cents, with 2 cents added for each degree upward to 27-27.9 degrees, at 75 cents.

Wheeler Ridge—Standard Oil Co. posts 55 cents for all grades.

Coalinga—Standard Oil Co. and Union Oil Co. post 55 cents for all grades up to and including 24-24.9 gravity, and 57 cents for 25 gravity.

Newhall, McKittrick and Kern River—Standard Oil Co. posts 55 cents per barrel for all grades.

McKittrick, Kern River, Midway-Sunset, Elk Hills and Buena Vista Hills—Union Oil Co. pays 50 cents for 11 to 13.9 degrees, and 55 cents for all other grades.

Montebello—Standard Oil Co. and Union Oil Co. post 65 cents per barrel for all grades.

Whittier and La Habra—Standard Oil Co. posts 65 cents per barrel for all grades.

Elwood Terrace—Standard Oil Co. posts: 33-33.9 degrees, 79 cents; 34-34.9 degrees, 81 cents; 35-35.9 degrees, 84 cents; 36-36.9 degrees, 87 cents. All prices f.o.b. ship.

Santa Fe Springs—Union Oil Co.'s top price is 85 cents per barrel for 34-34.9 gravity.

ASSOCIATED OIL CO PRICES

Associated Oil Co. prices effective June 20 are as follows:

Ventura Avenue—32 gravity, 58 cents, with 2 cents added for each degree upward to and including 30 gravity, which is 74 cents.

Kettleman Hills—The Associated Oil Co., effective at 7 a.m., February 5, 1932, withdrew and canceled any and all prices heretofore published and in effect for Kettleman Hills oil.

Petrero—24 gravity, 59 cents, with 3 cents added for each degree upward to 34 gravity which is 69 cents.

General Petroleum Co. in Kettleman Hills, effective January 1, 1932: 33-33.9°, 66 cents; 34-34.9°, 68 cents; 35-35.9°, 70 cents; 36-36.9°, 72 cents; 37-37.9°, 74 cents; 38-38.9°, 76 cents; 39-39.9°, 78 cents.

CODE SIMPLY AN AGREEMENT WITH FEDERAL COMMISSION

By Special Correspondent

AUSTIN, Tex., May 10.—Ralph C. Holmes, president of The Texas Company, coming from New York to Austin, Monday testified in Attorney General James V. Allred's antitrust suit against 15 oil companies and two marketing groups, for penalties up to $17,850,000 and ouster of the companies, that the code of marketing ethics, on which the suit is based, constitutes an agreement between his company and the Federal Trade Commission and was signed finally by the company on invitation of the Federal Trade Commission.

Mr. Holmes will continue his testimony during the week. He was the first witness in the antitrust suit, filed seven months ago, and testified before George E. Shelley, special commissioner.

To each question by Attorney Bernard Martin, counsel with Attorney General Allred, there were from 1 to 15 objections by attorneys for all the answering oil companies.

With Mr. Holmes, Vice President C. B. Ames, H. W. Dodge and Col. H. T. Klein are here from New York to testify.

Mr. Ames made a statement, as one of The Texas Company counsel that The Texas Company admitted it took part in formulating the code of ethics, that its officials conferred with the Federal Trade Commission in formulating the final code, that it accepted the code as an agreement with the Federal Trade Commission, that it has observed and still observes the terms of the code, and had advised its dealers and its competitors in the business to observe the code.

Attorney General Allred said it was intended to produce the evidence through the witness, Mr. Holmes.

Mr. Holmes was in Europe at the time, and the acceptance was signed by Vice President W. S. S. Rodgers on behalf of the company, he testified. He said the company has respected and is now complying with the code of ethics.

Mr. Holmes was chairman of the eastern division committee that worked out the code, he testified. The text was changed on suggestion of the Federal Trade Commission and was subsequently accepted by the companies.

Mr. Holmes' answer and the statement of Mr. Ames put the State in the attitude of suing for an antitrust violation on the agreement between a company and the United States Government.

Attorney F. A. Williams, of Galveston, declared that he was present to hear the testimony, but not to make appearance for the Socony-Vacuum Corp. or to waive service. Other attorneys made conditional appearances for other companies, subject to pleas before Judge Moore in the case on which law questions have occupied nearly eight weeks to date, and will be taken up again May 23 in review of Mr. Allred's amended original petition.

EXCISE TAX REMAINS; GASOLINE TAX IS OUT

By C. E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., May 10.—The senate committee on finance has agreed to report the House revenue bill to the Senate retaining a 4 cents a gallon tax on lubricating oil and reducing the House tax of 8 per cent of the transportation charges of pipe lines to 3 per cent.

The 1-cent tax on domestic gasoline was stricken out on a vote of nine to nine.

The treasury department estimates the lubricating oil revenue at $35,000,000 and the pipe line tax at $6,000,000.

The import tax on petroleum and products of 1 cent a gallon, and the tax on coal, copper and lumber are all estimated by the treasury to produce a total income of $6,000,000, but the oil tax alone is estimated by many oil men to produce vastly more than that amount.

The fight on the revenue bill will be made all over again in the Senate. Senator Reed of Pennsylvania (Republican), will try to restore the general manufacturers' sales tax. A drive will be made to eliminate the import taxes on oil, coal, copper and lumber.

Late Fields

KANSAS

The allowable of the Ritz-Canton-Decker Pool, in McPherson County, has been increased from 6½ per cent to 8 per cent of the potential, effective May 1, due to the increase in pipe line outlet. The umpire and agent for the Public Service Commission, L. R. Pickrell, announces that all wells except those receiving the minimum allowance are authorized to produce their properties at 8 per cent of potential until changes in pipe line nominations or completion of new wells makes a change in the allowable necessary.

Smith and Ash's No. 1 Stratman, in Section 12-17-10w, in Stratman Pool, in Ellsworth County, swabbed at the rate of 33 bbls. an hour for five hours, and filled up immediately, after the swabbing test.

In the Wright Pool, near Valley Center, in Sedgwick County, Continental Oil Co. and Gypsy Oil Co.'s No. 1 Lambe, SE cor. NW, Section 12-26-1w, drilled into water in the Silicious lime at 3,422 feet and is now plugging back to the Simpson sand where a showing was found estimated at 75 bbls. a day of oil and some water.

A new location was announced for the Ritz-Canton Field, Darby Oil Co.'s No. 2 Coons, SE cor. SW, Section 20-19-1w, and if it proves to be a producer it will call for three offsets.

In the new pool, southeast of the townsite of McPherson in the same county, Mid-Kansas Oil & Gas Co.'s No. 1 Bridgens, NE cor. SW SW, Section 2-20-3w, is estimated to be a 4,000-bbl. well from the chat at 2,975-3,030 feet. It made 90 bbls. of oil in 30 minutes and was shut in to erect tanks. This is the third well completed in the area and extends production a half mile south from the discovery well recently completed by Shell Petroleum Corp. which was estimated at 600 bbls. a day. There is no pipe line outlet at present.

Shawver and others' No. 1 in the NE cor. SE, Section 2-20-2w, on the southwest edge of the Ritz-Canton Pool, McPherson County, found a hole full of water in the Wilcox sand at 3,452-53 feet where it may be plugged and abandoned.

Derby Oil Co.'s No. 1 Rainbow, in Section 33-22-7w, wildcat in Reno County, found a showing of oil in the chat at 3,547-60 feet, and was drilling deeper.

Skelly Oil Co.'s No. 1 Liesman, C SE SW, Section 20-27-10w, Kingman County, produced 419 bbls. of oil from the Kansas City lime at 3,417-90 feet. It made 325 bbls. of oil the second 24 hours and the hole needs cleaning out. It will probably be completed at the present depth and later drilled to the Wilcox sand.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., May 10.—Smith and Capps' No. 2 Duval County Ranch Co., in Survey 574, Duval County, came in Sunday and filled a 500-bbl. tank the first six hours flowing open, and is now pinched down. It perpetuates 10,000 acres of The Texas Company's leases that would have expired tomorrow. Location is a quarter mile northeast of No. 1, a gas well at 2,413 feet, and 2 miles southwest of extension to Government Wells Pool. Sand depth of No. 2 is 2,375-95 feet.

John F. Camp's No. 1 Weil, in Duval County, 1½ miles south of Smith & Capps' discovery gas well, bailed salt water Saturday. Total depth is 2,438 feet, and total depth of Smith & Capps' well is 2,413 feet. Camp will probably take another core or two and may make another location a little farther northwest to get up the dip towards the Smith & Capps gasser.

Hynes & Nessly's No. 1 Duval County Ranch Co., in the southern part of Survey 196, Duval County, 7 miles southwest of Government Wells extension at 2,316 feet, Saturday bailed salt water. It will continue to drill to around 3,000 feet.

OKLAHOMA

Empire Oil & Refining Co.'s No. 3 D. Fish, SE cor., Section 19-7-8, in the Fish Pool, in Seminole County, found water in the Wapanucka lime and landed the 6-inch casing at 3,147 feet, and was drilling deeper at 3,216 feet with about 2,600 feet of water in the hole. It is one of the few dry holes in the Fish Pool, and is one of the first holes to be drilled to the Wilcox sand.

Shell Petroleum Corp.'s No. 6 McCulley, NE cor. SW SE, Section 30-19-4w, on the discovery lease in the Marshall Pool, in Logan County, has successfully completed a fishing job and was drilling deeper at 5,926 feet, in a new hole after sidetracking the iron which fell into the hole causing the fishing job. The old total depth was 5,983 feet when the trouble occurred that forced the sidetracking of part of the drill pipe.

The Sovereign Oil Corp.'s No. 1 Selacek, NE cor. SE, Section 3-12-5, a wildcat in Lincoln County, is rigging up standard tools at 4,478 feet, in the Viola lime. The top of the Viola lime was found at 4,462 feet. The log shows the Hunton lime from 4,384-4,468 feet, where a showing of oil was found.

Eason Oil Co.'s No. 1 Huggins, in Section 1-7-8, a wildcat test about 1½ miles north of Holdenville, found the Booch sand at 2,828-59 feet and was rigging up standard tools.

Empire Oil & Refining Co.'s No. 4 B. Fish, SW cor. NE SE, Section 19-7-8, in the Fish Pool, Seminole County, found the top of the Wapanucka lime at 3,044-49 feet, where it is landing the 8-inch casing.

Hilton Phillips and others' No. 1 Phillips, SW cor. NW, Section 2-14-3, a wildcat in Lincoln County, was swabbing at a total depth of 5,065 feet. The 5-inch casing was set at 5,053 feet.

High Spots in Field News

WEST AND NORTH TEXAS AND PANHANDLE

Howard-Glasscock allowable reduced. Seven locations in Ranger, 22 in Wichita Falls district and 6 in Panhandle.

GULF COAST

Second good well at Iowa Dome. Extension at East Hackberry. Good producers completed at Pierce Junction and Lake Barre.

NORTH LOUISIANA AND ARKANSAS

Fifteen new locations in Zwolle District. Three new wildcats in North Louisiana and Alabama. Dry hole in Shelby County, East Texas.

SOUTHWEST TEXAS

Twenty-five first reports of prospective drilling operations during week. Pettus area especially active. Important wells in Duval County.

KANSAS

New oil areas extended. Tests in Ellsworth, Reno and Kingman Counties uncover important showings. Allowable production increased.

EAST TEXAS

Sentiment favors reduction in takings to 55 bbls. per well. Now 5,400 wells completed with 151 completed during week. Activity unabated.

OKLAHOMA

Production increased temporarily by operators taking large part of allowable early in proration period. Oklahoma City well makes enormous output.

CALIFORNIA

Meetings being held to arrange new voluntary curtailment program, overcoming defeat of Sharkey bill. Gas conservation law remains in effect.

ROCKY MOUNTAIN AREA

New productive unit in Hobbs Pool, New Mexico. Garland-Byron district in Jackson area, Big Horn County, Wyoming, shows new activity. Arizona abandonment. New survey in Colorado.

COMMISSION FAVORS METERS ON PIPE LINES

DALLAS, Tex., May 10.—The Railroad Commission has adopted a plan to place meters on pipe lines in East Texas. Jack Pew, chairman East Texas pipe line committee, and his committee; Maj. J. R. Parten, president Independent Petroleum Association; Charles F. Roeser, president Texas Oil and Gas Conservation Association; Clifford Mooers of East Texas Oil Club, and Charles Estes have been asked to come to Austin to meet with the commission and help formulate the right kind of order to help the people and conditions in East Texas. This meeting will be called at once.

At the Railroad Commission meeting here today testimony was heard in regard to oil meters, their accuracy, and use in checking oil production and shipments through pipe lines.

W. J. Barnes, Humble Pipe Line Co., read a letter presenting that company's attitude in regard to use of meters.

The meeting brought out that some companies are for adoption of meters while others are not. Meter manufacturing company representatives testified as to use of meters in other states and countries and their accuracy.

Earl Calloway and Charles Roeser advocated producers and pipe line companies making sworn statements each day on production and pipe line runs to the Railroad Commission. S. A. Guiberson, Jr., also recommended this. Meters could be used to check these reports.

Natural Gas Industry Plagued by Regulatory And Other Legislation

Burdened With Taxes to Provide Swivel-chair Governmental Jobs

By Judge H. O. Caster
Henry L. Doherty & Co., New York*

The rapid expansion of the natural gas business during the past few years has caused great activity in legislative bodies. They have attempted either to regulate the rates at which gas should be sold to the ultimate consumer or to raise taxes from this industry. Much indirect legislation has been enacted by the legislatures of several states, as in the case of the California law, where the legislature sought to prorate the production of crude petroleum by regulating the production of gas from oil fields. This regulation was enacted under the guise of conservation and prohibited the production of gas unless a market therefor could be had. The law has been held constitutional by the courts.

In Kansas, the legislature of 1931 placed the control of the production of oil and gas in the hands of the State Public Service Commission. A reading of the statute convinces one that the legislature was seeking to regulate the production of gas only so far as it affected the production of oil.

In Texas the legislature passed a gas conservation law which provided not only for the conservation of gas, but for its ratable taking from all producers in the same field. This law is now being tested in the courts.

There was great activity in many of the states in urging the passage of laws which would prohibit so-called "utility merchandising." Bills were introduced in the legislatures of Texas, California, Illinois, Kansas, Indiana, Pennsylvania, Nevada, Missouri and Nebraska. A bill was introduced in the Massachusetts legislature proposing regulation and license by the secretary of the commonwealth, while a bill in Iowa aimed to give municipal utilities the right to merchandise. So far as I am able to ascertain, only two such bills were passed, one by the Kansas legislature and one by that of Oklahoma.

Kansas' Law

The Kansas act provides that after June 1, 1931, "it shall be unlawful for firms or corporations engaged in the manufacturing, transporting, distributing or selling of heat, gas, water, electricity or electric current to engage in the manufacture, wholesale or retail by sale or lease of any chattel, article, commodity, or manufactured product, except those articles which have been owned by such utility company in manufacturing, distributing or selling its utility service, or those articles which are the direct product of the business of manufacturing or distributing said utility service."

In Oklahoma the law provides that "it shall be unlawful for any public service corporation in the State, directly or indirectly, to engage in the sale of merchandise, utensils or chattels of any sort not directly connected with the general business of such public service corporation as authorized by its charter."

The agitation for such legislation is widespread and active. Undoubtedly bills of similar nature to those passed in Kansas and Oklahoma will be introduced in the legislatures of a great number of other states at their coming sessions. It is our information, however, that the law in Kansas is a very unpopular one and that it will likely be repealed during the next legislative session.

Indirect regulation was occasioned by changes in the public service and public service commission laws of a number of states. Originally, the Kansas public utility law provided that an action might be brought in the Shawnee County District Court to set aside any order or regulation of the Public Utilities Commission because the same was illegal, unjust, unreasonable or confiscatory. The act was injunctive in nature and was a trial de novo. The court proceeded to try the case anew, on new evidence, and the evidence introduced at the hearing before the commission was not admissible except upon the agreement of parties. The courts took the position that if the rate or regulation was reasonable when made, but had become unreasonable and was unreasonable at the time of the trial in court, the court would set it aside, and vice versa.

More Burdensome to the Utility

This act was recently amended by providing that an appeal should be taken in the district court in the county where the utility sought to be regulated was operating, and that the case should go to the district court on the record made before the commission. This is much more burdensome to the utility. First, the evidence taken before the commission is introduced into court. There are no rules governing the admissibility of such evidence by the commission, so that a great deal of evidence thus introduced would not be admissible in a court trial. Second, the appeal is taken to a court in the immediate vicinity of the utility's operation, which is much more subject to be influenced by public opinion or bias and prejudice by the court.

In a number of states attempts have been made to make the valuation for rate making the same as the valuation for taxation. In a number of them it is but a rule of the commission, but in some few, such as Missouri and West Virginia, the legislatures have enacted laws providing that the valuation of utility properties for taxation and for rate-making purposes should be the same. We think these laws are unconstitutional. A utility is entitled to pay its taxes on the same valuation basis as other businesses, and the courts have specifically said what are elements of value to be considered for rate-making purposes. However, the courts have held that where states' constitutions do not prevent it, legislatures may effect a different classification of properties for taxation purposes.

In some places, there is a growing tendency to collect franchise taxes. There has been considerable agitation for special taxation of utilities for school purposes; for an increase in income taxes to be paid by utilities, and for direct taxes on gas and electric output or sales.

During recent years, a number of states have enacted so-called "severance" tax laws. Under such a law, a tax per 1,000 feet is imposed for the right to produce gas. The severance tax is entirely different from a gross production tax, such as in force in Oklahoma. The gross production tax is based on the value of the mineral produced in the state, and is in lieu of all other forms of state taxation. It is somewhat comparable to the taxes paid by other industries in the state. The severance tax provides that, although one may own the land upon which he drills a well and produces gas, he shall pay for the right of producing it. Some states even go so far as to provide that where a man owns the land upon which timber grows, and, consequently, owns the timber, before he can cut it down he must pay the severance tax for that privilege.

This tax is not in lieu of other taxes, but is in addition thereto. I know of no more vicious form of taxation. A state that can enact a severance tax law covering the production of oil and gas can tax the farmer for the right to cut his wheat.

In Texas, a 2 per cent gross production tax was recently enacted. In Iowa, a bill was introduced in the last legislature proposing to tax pipe lines 15 cents per 1,000 feet on gas brought into and sold within the state. In Arkansas, special taxes were proposed on electric, gas, telephone and telegraph companies to retire school bond indebtedness. In Kansas, a bill was introduced which provided for a 2 per cent gross production tax on natural gas, and a proposal was made for a constitutional amendment to cover progressive income tax. Alabama passed an act taxing gas 2 cents per 1,000 feet, and in Georgia an act was passed taxing gas 10 cents per 1,000 feet.

Bills have been introduced proposing a flat tax per meter; a flat tax per mile of pipe line; an excise tax on the percentage of gross business done within the state; a graduated sales tax on retailers; a special tax on utilities having equipment on public highways and in parks, etc., and requiring fees from distributors and owners of gas systems using and producing from outside the state. It has also been proposed to levy a direct tax of 5 per cent on monthly bills under the sales tax and a license tax on the sale of utility equipment.

Oregon now imposes a 5 per cent tax on the gross earnings of utilities operating within the state without franchises. This, of course, does not apply to utilities with franchises, and the act is a direct incentive for municipalities not to renew expiring franchises.

In some states, laws have been enacted attempting to place upon the utility the whole or a part of the cost of utility administration, such as in Kansas, New Hampshire and Pennsylvania. In others, the commission is authorized to make valuations of the utility properties for the information of the commission, and at the expense of the utility, as in Missouri.

Service Charge Prohibited

In a number of states, a service charge is prohibited by law, and there is an increasing demand to abolish such charges. Bills looking to this end were introduced in recent legislatures of Maine, Nebraska and Ohio.

Bills affecting holding companies were introduced in recent legislative sessions in Kansas, Maine, Massachusetts, Missouri, New Jersey, New York, Pennsylvania and Wisconsin. The new Oregon commission act has far-reaching provisions in this respect and requires, among other things, the approval by the Public Utility Commission of contracts between utilities and affiliated companies. Some of the bills contained provisions restricting stock ownership and proposed to further regulate mergers, and in one or two such bills it was proposed to make holding companies utilities.

In a number of states, there are laws which prohibit any person, firm or corporation from owning, holding or voting more than a certain per cent, usually 10 per cent, of the stock of any utility doing business in the state. Management, engineering and similar contracts are made subject to the approval of commissions.

The Supreme Court of the United States has uniformly held that natural gas pipe lines transporting gas interstate were engaged in interstate commerce, over which the states had no control. In fact, Congress, in the act of regulating commerce, specifically excepted pipe lines transporting natural gas from the provisions of the act. During 1929 and 1930, there was considerable agitation for an act of Congress placing gas pipe lines engaged in interstate commerce under the control of some federal regulatory body. Senator Capper of Kansas introduced the bill providing for such control; however, the bill did not pass during the short session of Congress. In the meantime, the National Association of Railway and Public Utility Commissioners, at its annual session in the fall of 1931, went on record as against such federal legislation, and no such bill has been introduced in Congress during the present session. It is not likely that such a bill will again be introduced. Such legislation, we think, will be obviated if the pipe line companies engaged in interstate commerce show a willingness to supply regulatory bodies with information regarding their investments and earnings. We think that the regulatory bodies and the public are entitled to this information.

There has been some discussion during the present session of Congress of the propriety of placing an excise tax on the natural gas business, but at the present time there is no such provision in any proposed bill.

Government Ownership

During the last few years, there has been great agitation for municipal and government ownership of utilities. Proposals to facilitate such ownership have been made in at least 15 states, including Arkansas, Idaho, Illinois, Iowa, Kansas, Massachusetts, Minnesota, Missouri, New Mexico, Oklahoma, Washington and Wisconsin. We do not believe that municipal ownership will be as popular in the future as it has been in the past because of the widespread protest against increased taxes, and especially the increase of taxes by cities, counties and states. We believe that the taxpayer is beginning to realize that governments, whether they be city, state or national, cannot efficiently and economically manage business enterprises, and that this applies to utilities as well as to other industries.

Bills have been introduced in a number of states, notably in Colorado, Idaho, Kansas and Texas, with a view to regulating gas pipe lines in one form or another, including the classification of such pipe lines as common carriers. In North Dakota, a bill was introduced, but not passed, requiring gas companies operating pipe lines to establish and maintain reserve gas tanks.

The activities of state and federal governments have increased to a very great extent. Boards and commissions of almost every description have been established which go all the way from regulating railroads and utilities to investigating businesses of every kind and character. There is ever the tendency of governments to reach out and grasp more and more authority.

Not How Few, But How Many

In government, it is too often not questioned how few men can do a job, but how many men can be put on it. The government takes on a clerk. No sooner does he become established than he wants a private office with a swivel chair, a mahogany desk, a brass cuspidor; then he wants a stenographer; then he wants helpers; each helper wants a private office, and so the process begins anew. In private business, these expenditures and

*Before annual convention Natural Gas Department. American Gas Association. Tulsa, May 9-11.

useless expansions must be eliminated or the business fails, and only those survive who are able to keep their operating and administrative charges within reasonable bounds. But if the governmental business fails to make its operating expenses, it levies a tax to make up the deficit.

To raise the money to defray these ever-increasing costs, governments have resorted to every known method to get the largest amount of money possible with the least amount of fuss. It has been estimated that the total amount of wealth produced annually in the United States is about $70,000,000,000, and that approximately $14,000,000,000 of these $70,000,000,000 are expended in the maintenance of government. And we who are engaged in the public utility business may expect that every possible attempt will be made to wring from us in taxes the last penny possible. We believe that utilities should bear their fair share of taxation, and that utility operators should take an interest, along with other taxpayers, in seeing that the unnecessary expenses of government are curtailed; that government is simplified and confined within its legitimate bounds of governing, and that private enterprises be allowed to carry on the businesses of the country.

Selling a Service

We who are engaged in the gas business are selling a service. We invest millions of dollars in building pipe lines to transport gas from the fields to the markets; we deliver gas through our distributing companies to the customers, a majority of whom pay bills not to exceed $2 or $3 per month. We must keep the accounts of each individual customer, must read his meter, and must see that he gets perfect service every month. If we could wholesale our product in large quantities, we would be able to dispose of it at a fraction of the price we must now get. A farmer can haul a 75-bushel truckload of wheat to town and dump it into the elevator at one price per bushel, but if he has to distribute it around town a bushel at a place for chicken feed, then go back at the end of the month and collect for it, he must get another price. In one instance he is selling wheat, and in the other instance he is selling service.

Furthermore, the natural gas business is confronted with great mining hazards. A company builds a big system costing millions of dollars; it takes its chances on a gas field being opened within a few miles of its markets (this has happened repeatedly in the past few years); it takes the chance of the gas field playing out, either because of poor estimation as to the reserve, or because the gas is allowed to be wasted. Several times as many cubic feet of gas are daily blown into the air as are consumed, and to date no adequate conservation laws have been passed and enforced.

The natural gas industry has a great many problems to meet, but that's the gas business, and he who is not willing to meet these problems cheerfully and intelligently will eventually get out. We have the assurance that we are engaged in a useful business, supplying not only a luxury but a necessity of life, and that if our project is well conceived, with an adequate gas supply and an adequate market, if we carry out our obligations to the public and meet our situations intelligently, we will succeed.

NEW WELLS IN RUSSIA

NEW YORK, May 9.—Two new gushers were struck toward the close of March, one in Ashkabad, in Turkmenistan (Soviet Central Asia), and the other in Baku Bay, Azerbaidzhan (Transcaucasia), according to reports to Amtorg Trading Corp., American representatives of the Soviet.

The Ashkabad well is producing 3,000 metric tons of crude daily, and the Baku Bay well 2,000 tons, and they are also producing a small quantity of gas.

A second oil gusher was struck earlier in the month at Neftedaga in Turkmenistan, the daily capacity of which exceeds 2,000 tons. Two new wells also yielded quantities of gas.

Gas Measurement Now a Profession

Highly Specialized and Technical, Requiring Knowledge of Fundamentals of Physics, Mathematics and Engineering

By Elmer F. Schmidt
General Superintendent, Lone Star Gas Co.*

Gas measurement is a highly specialized and technical profession. It requires a knowledge of the fundamentals of physics, mechanics and engineering. It is impossible to qualify as an expert without much training, study, hard work and long experience.

A great many of our inventions are brought about by necessity and it may be said that more accurate measurement of gas came about as the value of the commodity increased and the necessity for conservation of a natural resource became evident. It was a natural growth.

In the manufactured gas industry the large station meters formerly were sometimes 10 to 15 feet in height measuring low pressure gas but these are now quite obsolete. Meters for similar capacity now require only a small fraction of the room occupied by these enormous wet meters of the earlier days.

In the natural gas industry for larger volumes and higher pressures than those required in the manufactured gas industry, the proportional or shunt meter first came into general use.

Several types of rotary meters were also invented and introduced to the industry.

Pitot Tube

For extremely large volumes encountered at city gate measuring stations, the pitot tube was employed. These stations were very elaborate and quite expensive. The tubes used were of varying diameters, depending on the capacity required and usually were made of brass. They were generally about 12 feet long and very closely machined inside to an exact diameter. Near the outlet end of the tube the pitot tip was inserted, one opening pointing directly upstream and the other down stream. This tip was placed so that the openings came in contact with the gas stream at approximately one-third the diameter of the tube from the top. This location was selected as the point giving the average velocity through the cross-section of the tube.

Venturi Meter

The Venturi meter was used to some extent for large volume gas measurement. This is quite similar to the pitot tube except that the static and differential pressures are taken from the side of the tube and throat and not in the stream of the gas. Recording gauges were generally used giving a continuous record of the pressures.

Orifice Meter

In the spring of 1911 the orifice meter for measuring gas was conceived. Considerable experimenting was done to determine the proper shape orifice to permit a constant coefficient for variable flows. The thin plate, sharp edge, orifice, so well known today, was finally decided upon. It was necessary, however, to calibrate each plate to determine its coefficient. The coefficients determined at this time were remarkably accurate. The have stood the test of time and check closely with the results of more recent tests made under conditions much more favorable for present day standards of accuracy.

This relatively cheap orifice plate was at once destined to replace the expensive tubes of the pitot station. The next step was to produce a recording differential gauge. The first design, some of which are still in use, was known as the bomb shell gauge. This gauge consisted of a heavy iron casting, nearly spherical in shape, constructed so that the front half can be removed by taking out a number of bolts. This cast iron bomb contained a clock to actuate a chart, a sensitive bellows type spring and the necessary mechanism to transmit the movement of the spring to the recording pen on the chart. The bomb was gas tight in its closed position and the low or down stream pressure was connected to the inside of the bomb and acted on the outside of the diaphragm spring, while the high or upstream pressure was transmitted to the inside of the spring.

The small difference between these two pressures caused the spring to expand and the mechanism converted this movement to the chart where it was recorded as differential pressure in inches of water. It will be readily seen that this arrangement was clumsy and required a strong man to remove the front half of the bomb shell case in order to change the chart and wind the clock each 24 hours.

No by-pass was provided in the pressure lines and it required a sensitive touch to bring the pressures to the spring uniformly and simultaneously in order to prevent undue strains on the spring. Two glass peep holes were provided in the front of the bomb shell to permit the operator to see the movement of the pen on the chart in loading the gauge with pressure and also to see the differential at which the meter was operating under the conditions of flow. The static recording gauge was usually mounted alongside of the differential gauge.

In order to make the chart more accessible and the entire gauge much lighter many changes were soon made. The diaphragm spring was housed in a small cylindrical box, fastened to the back of the gauge case and its motion transmitted to the pen recording mechanism by a shaft extending through a gas tight stuffing box. This arrangement permitted all the working parts of the differential gauge except the spring to be easily accessible.

Design Improved

In order to accurately register small variations in differential, these diaphragm springs were necessarily very sensitive and consequently very easily thrown out of calibration if the capacity of the spring was exceeded. For accurate measurement of gas it was necessary to calibrate these springs very often and make adjustments. Checking for errors was accomplished by comparing the registration of the spring on the chart with a portable mercury column graduated in inches of water. Even though the springs were protected against strains by elaborate check and safety valve systems in the gauge lines, they did not last long because of the extreme frailty of the diaphragm material.

The next step in the advancement of gas measurement came about with the introduction of the mercury differential gauge which in a few years replaced all the spring type differential gauges. This gauge consisted principally of a high-pressure U-tube containing mercury with a float in one side of the tube, which moved up and down with changes in differential and this movement was transmitted to the chart by means of a link mechanism connected to a shaft through a stuffing box. The other end of the shaft was connected to the pen arm and the chart was calibrated in inches of water. Many manufacturers of gauges soon adopted this idea and the development of the mercury differential gauge, gradually brought about by the troubles encountered in field use, has resulted in the high state of perfection found in the present instruments on the market.

Miscellaneous Types

Many other types of differential gauges were invented employing many different and unique methods to record differential pressures. Some used electrical devices, others magnetic action, and still others were based on torsional movements. The mercury float type differential gauge, because of its simplicity and present accuracy, is used almost exclusively in the gas industry.

As time went on, both static and differential gauges were combined into one gauge. This brought about a simplification of the meter gauge lines and assisted in the computation of the deliveries on account of the convenience of having both records on a single chart.

Accurate time movements were very necessary in connection with the orifice meter. The original clocks furnished with the differential and static gauges were not reliable. Bettter movements were developed for this work and now very little trouble is experienced.

The present-day orifice plate is now precisely machined and with the exact diameter of the orifice known the coefficient can be computed accurately, thus eliminating the necessity of calibrating each plate against a holder or standard plate. These plates are undoubtedly much more accurate than the first plates used.

Co-ordinated Research

The American Gas Association, in conjunction with the U. S. Bureau of Standards and U. S. Bureau of Mines, has carried on extensive experiments over a period of some years in an endeavor to determine all the factors that have effect on the measurement of gas with an orifice meter. This work has developed certain standards with regard to meter settings and arrangements which, if followed, will give accurate measurement. Some of this work has already been published and other information will soon follow.

When orifice meters were first used extensively, the importance of knowing the specific gravity of the gas became more urgent. In many of the original contracts for sale and purchase of large volumes of gas measured by orifice meters, the specific gravity was a part of the contract base and no correction was allowed for variations in gravity. This gravity was usually determined from a partial analysis of the gas flowing at the time sample was taken. Later the effusion bottle was used but this was probably not as accurate as a good analysis. The necessity of knowing this important characteristic of gas brought about the development of the gas density balance. This instrument now can be used to determined very accurately the specific gravity of any gas and plays an important part in gas measurement.

High Pressure Meters

Quite a few other types of meters are used for the measurement of large volumes of medium and high pressure gas. The positive rotary displacement meter is quite extensively used. This type of meter has received more recognition since it has been developed to measure accurately through a rather wide range of flow conditions. It also has considerable possibilities in connection with measuring pulsating flow.

Many other devices have been invented for measuring large volumes of gas but the orifice meter still remains the most popular and practical for the majority of installations. Naturally, as time goes on, there will be improvements brought about in the orifice meter which will help in one way or another to improve the science of measuring gas.

One such improvement quite recently advanced is the complete integrating orifice meter which eliminates the necessity of office computation of the chart. The sum of the extensions is registered on a dial and to determine the volume it is necessary only to multiply this reading by the proper coefficient for the particular plate in the meter. Another labor-saving device now quite generally used is the chart integrating machine.

*Before Southwestern Gas Measurement and Short Courses, Norman, Okla., April 26-27-28.

Longest Large Gas Line In East Goes Through Rough, Hilly Country

Use of Machinery in Construction Depends on Topographic Conditions

By H. A. Wallace
President, Charleston Group, Columbia Gas & Electric Corp.*

During the past few years the construction of large gas lines, 18 to 26 inches in diameter and more than 100 miles in length, has been a common occurrence throughout the West and Southwest, but few lines of this size and length have been constructed in the East. The western and southern lines for the most part have extended mile after mile through flat or easy rolling country, with only occasional and comparatively short rough mountain sections. This favorable topography has permitted the development and use of machine work in practically all stages of the construction, whereas in the East some sections are adapted to economical machine work, but these sections are interspersed with long and short stretches of impractical machine construction. It requires close study of the topographic conditions and a very careful weighing of the advantages of various forms of machine work by our engineers and construction superintendents to determine what part of the work may be carried on economically with those machines.

The Columbia Gas & Electric Corp. completed last year the longest large gas line which has been constructed in eastern territory, some 460 miles of 20-inch outside diameter line. This line extends from Warco, Ky., through eastern Kentucky, southern West Virginia, Virginia and Maryland to Coatesville in eastern Pennsylvania. It includes in its length nearly all the varied topographic changes and soil conditions characteristic of the East: 100 miles of typical West Virginia and eastern Kentucky hill country, hills with steep slopes and from 400 to 1,200 feet in height, two or three to a mile; 100 miles of Allegheny plateau and mountain country reaching in some parts an elevation of 4,000 feet above sea level; 30 miles of rolling limestone country in the James and Shenandoah River Valleys; 20 miles of Blue Ridge Mountains and foothills of their eastern slopes; 210 miles of low rolling hills in northern Virginia, Maryland and eastern Pennsylvania.

On account of my close connection with the development and details connected with the construction of this line, I wish to call your attention to some of the constructive methods used, noting a few recent changes in eastern practice and some points of variation from western construction.

Location and Survey

For our pipe line location work we are able to obtain government topographic sheets on scales of 1 inch = 1 mile, very good detail; and 1 inch = one-half mile, very much lacking in detail, on which the initial and delivery points are definitely located, and a line can be projected taking advantage of the best apparent ground conditions, practical and accessible mountain passes, and favorable location at river crossings that are within reasonable distance of the straight line projected from field to delivery points. This preliminary location may be followed immediately by placing engineers in the field to take care of the detail location, and obtain the necessary right of way data, or the actual location on the ground by engineers may be delayed until an aerial survey can be made.

We find that the aerial survey is of inestimable value to the engineers in selecting the best and most practical location, and may in some sections permit of such definite location on the photographic strip map that right of way may be procured before the line is actually staked on the ground. Owing to time limitations and excessive aerial costs at the time our eastern pipe line was located, we were not able to take full advantage of the aerial work that we have used since that time on other proposed locations. The aerial photographs are taken from an elevation of about 12,000 feet and give a clear width of strip map of about 3 miles allowing final finished photos to be made with sufficient accuracy for our purpose on a scale of 1 inch = 800 feet, which is our regular main line map scale.

As our organization is well equipped with photostat machines, it was found to be most economical in our case to obtain from the Aerial Survey Co. only the separate overlapping photos which we, ourselves, developed into a continuous strip map. The cutting and fitting of these overlapping photos to produce the key strip map, from which our final maps are made, is a tedious process, calling for much patience on the part of the engineers, but resulting in finished strip maps at a very low cost. Actual location survey with field parties usually costs about $100 per mile, and all of our hill and mountain country require these surveys in addition to the aerial work, and of course all sections of the location must be staked before construction begins.

Hill Country and Its Problems

Construction methods and practices in the East, particularly in the hill country of West Virginia and Kentucky, may to western pipe line builders seem to have fallen into the rear ranks of the procession of progress and improvement. It is true that we have not yet been able to recommend the building of solid welded line through our hill country, nor even recommend the general use of 40-foot joints in this country. Our recent experience with the 460 miles of 20-inch line, including many miles through these hills, has confirmed our opinion that only short and scattered sections of large line can use long joints and continuous welding to any advantage; and those sections must be very carefully selected otherwise construction difficulties and costs will be greatly multiplied.

Outside of the hill country we are as strong for long joints and welded lines, limiting length of welded sections, however, as any of our western builders. In the smoother country we take advantage of the same types of machinery, ditchers, hoe diggers, tractors, air compressors, backfillers, unloaders, and heavy trucks for hauling and stringing that are used in the West, and all of which replace the major part of the manpower and teams of a few years ago.

When our construction enters the rugged hill country, the story of eastern progress in use of machinery lags to some extent and keeps pace with our guarded welding recommendations. We lose our ditchers, many of our tractors, particularly those with booms for pipe laying, our backfillers, and unloaders. We revert to methods in use 10 years or more ago, with manpower and horsepower predominating. We have, however, clung tenaciously to the air compressor using light units, 120-foot machines for drilling, and a few tractors mounting double drum winches of special design, carrying 6,000 feet of one-half inch wire line, which is used to drag pipe and couplings to the hilltops where it can be "snaked" into place by teams or oxen. We also make a strenuous effort to hold the heavy trucks in service and are fairly successful in reasonably dry weather.

Our largest construction savings, over older methods, are due to the use, in spite of many transportation difficulties, of the light air compressors for drilling, the tractor with double drum winches and long cable, and the heavy trucks for hauling wherever roads can be kept in passable condition. Nine tractors, some Caterpillar 30's and other 60's mounting double drum winches with cable, were used on the job and those machines accounted for very large savings in our stringing costs. These outfits placed more than 200,000 feet of 20-inch pipe on the hills, saving heavy road costs and expensive teaming.

Ditching

Old ditching practice produced a ditch of nearly uniform depth, overbends excepted, the sags being cut to practically the same depth as level stretches. This causes the unnecessary expense of handling large quantities of material, often solid rock, from the bottom of these sags. Ditch foremen are now instructed to so grade the ditch that the top of the pipe line in sags has only sufficient covering, 16 to 20 inches, to protect it from cultivation and abnormal temperature changes. This practice in ditching was early applied to our handwork where costs of removing unnecessary material were exceedingly burdensome. The same practice has been extended to the work done by the ditchers; in fact the ditcher in rolling country free from rock is made to dig a graded ditch with shallow sags and heavy cuts on the overbends so that little or no handwork is required to complete the ditch to a finished grade.

We recommend and use in our handwork a 26-inch width of ditch, for 20-inch pipe, although for our recent machine work we purchased some ditchers that cut a 30-inch ditch, believing they might be called upon for service on lines larger than 20 inches and being influenced to some extent by contract electric welding requirements. In our estimation 6 or 7 inches over the size of the pipe to be laid gives ample clearance, whether for welded or coupled work, and feel that no ditch should be dug with greater clearance.

Drilling

Wherever rock was found in our ditch work, and in many sections of West Virginia and Kentucky the rock work ran as high as 80 per cent, averaging about 40 per cent, the air drills which were run night and day practically set the pace for the job. Over 100 tons of dynamite was used on this West Virginia-Kentucky section of the job. I cannot resist comparing this recent drilling practice with our older methods where churn drills were used with three men on a drill and when rushed or on hot days three other men standing on the bank ready to relieve them every 15 or 20 minutes. With such methods we would still be churning on those hills instead of having our line completed several months ago. In rough country and places along the line distant from the blacksmith's location, we found it to be greatly to our advantage to use detachable bits on the drills thus saving the time and expense of moving drills to and from the blacksmith.

Our pipe laying practice in comparatively smooth country makes use of tractors with booms, familiar to all pipe line men, and we recommend for our country the use of heavy tractors for this purpose, 60 Caterpillar or its equivalent in weight and power. These tractors must and do stand heavy punishment on rough, uneven footing and must at times carry and place under very trying conditions one end of welded sections as long as 160 or 200 feet weighing five or six tons. They must also stand the strain of making bends on both long and short sections of pipe, often on unfavorable ground. Hand laying practice used in the hills has changed little if any in the past few years. We still cling to the use of 20-foot joints, large gangs of pipe hustlers with carrying irons and snubbing lines to place the pipe on skids over the ditch and ram the joints home in the couplings, ready for the wrenchers. The wooden or iron horses, lonk hickory lever poles with 1¼-inch manila rope lowering lines are still used to release the skids and lower the pipe line into the ditch.

Pipe Bends

In connection with laying methods, it may be well to review the development in bending practices. Some of the first large lines laid in the East used shop bends in sizes 2½°, 5°, 10°, 15°, 20°, 25° and 30° that were shipped from the mill in accordance with orders made from data gathered in the field before any ditch was dug. These bends, at heavy expense, were strung along the line at their designated locations, but so many were misfits and had to be moved to other locations that the shop bending practice was abandoned and our field men were taught to make fire bends along the line where needed. Some other early lines used cast iron angle couplings, but in many cases with disastrous results; as due to inexperience on large line construction they were used in overbends with insufficient covering; also, many were broken in sags by small landslides that would scarcely have affected a pipe bend. A third method used on many early construction jobs to take care of bends called for the cutting of pipe into short lengths using extra couplings and thus getting the benefit of the 2° to 3° break or deflection in each coupling. This practice is costly and very dangerous on overbends.

Our first large pipe lines used pipe five-sixteenths to three-eighths inch thick and we fared very well making fire bends along the line wherever required, with this pipe, but as the manufacturers increased the tensile strength of the pipe resulting in decreased weight and thickness to take care of a given working pressure, the difficulty of making safe and satisfactory field bends was greatly increased, particularly when they exceed 10° or 20° deflection. For these reasons the bend problem on our 20-inch line to the eastern seaboard assumed large proportions. Descriptive matter and advertisements of bends and angles then in use did not appeal to us as offering a proper or satisfactory solution of a problem, where more than 10,000 bends would be required and many of which must be 20° or larger, on the 200-mile rough western section.

Several Thousand Bends Made

Consultation with representatives of firms making bends gave us little encouragement; their prices were prohibitive. After numerous conferences with the Pittsburgh Piping & Equipment Co. representatives of Pittsburgh, Pa., they agreed to attempt to make the bends we required in accordance with our ideas using their standard method of corrugation to obtain deflection, and so locating the corrugations on the joint that our requirements would be satisfied. This resulted in the delivery to us of several

*Before convention Natural Gas Department, American Gas Association, Tulsa, May 9-11.

thousand corrugated bends made out of a 20-foot joint of pipe having three corrugations of 7° deflection and equally spaced along the joint. The corrugations do not distort the diameter of the pipe; the thickness of the pipe is increased in the corrugation, but left unchanged on the convex side of the bend, and since there is no distortion of diameter between the corrugations we were able to cut these joints into three 7° bends, one 7° and one 14° bend or use the entire joint as a 21° bend. When cut into sections and used for overbends, the sections were welded to adjoining full joints of pipe.

Having obtained satisfactory bends for the larger deflections, we still lacked small bends of 2½° and 5° at reasonable cost that would cover the requirements for small sag bends and still further reduce field bending operations, we believed that angle couplings could be made at slightly increased cost over the regular couplings, and finally prevailed upon representatives of the S. R. Dresser Manufacturing Co. to supply this deficiency by turning out a 2½° and 5° angle coupling made on the same principal as the corrugated pipe bend, the corrugation being placed in a heavy 8-inch center ring to produce the required deflection. Many hundreds of these angle couplings have since been used with excellent results.

We favor and recommend for large high-pressure gas lines in eastern territory the use of couplings with heavy followers made of at least three-eighths inch material even though five-sixteenths inch center rings may be used. Long pipe and long welded sections, rubber coupled on uneven ground particularly demand this extra weight in the followers. In the older rubber coupled lines weak followers have been a serious source of annoyance and expense.

Gate Valves and Checks

Our practice in the use of main line gate valves attempts to locate them in the most accessible places above flood waters, at intervals of about 10 miles. These intervals become much distorted, however, on account of special conditions such as railroad crossings and river crossings where valves must be placed. All large valves have 6 or 8-inch field welded bypasses, and usually 4-inch relief valves on each side for drainage purposes.

Our installations of a few years ago used valves with 3 or 4-inch bypasses connected directly to the gate with flanged connections which were often a source of much leakage.

On any large line making deliveries always in one direction, the importance of the proper location and use of check valves is often overlooked. On our Seaboard line, checks were placed on the delivery side of all large river crossings using 10-inch check valves on the manifold lines. Where the intervals between river crossings were large, 20-inch check valves were placed at selected intermediate points. All check valves are installed with 6 or 8-inch field welded bypasses. It is our practice to use heavy 4-inch steel "butt welding companion flanges" on all heavy gates and checks.

The acetylene and electric welding processes have reached such a stage of perfection and dependability and have become so indispensable to pipe line construction that both processes are now in very wide general use. The method and amount of welding to be done on our 460 miles of line was thoroughly investigated and very much discussed owing to the great diversity of opinion in our own ranks. The final decision resulted in the adoption of a combination welded and coupled line, using 40-foot joints through the smooth country of Virginia, Maryland and Pennsylvania, but reverting to the straight coupled line with short joints in rough country. The welded sections between couplings varied in lengths from 80 to 200 feet, averaging about 130 feet, variation in length made to suit ground conditions. As the work approached rough ground, welding was continued to the point where lining and pipe handling costs became prohibitive.

More or less welding was done throughout the rough country to take care of special conditions such as dangerous creek crossings, overbends, etc., even though the costs greatly exceeded cost of couplings. About 110 miles of the smoothest part of the line was electric welded; 50 miles of this being taken care of by the A. O. Smith Co., and the rest by our own machines and welders.

The new Linde process acetylene welding with thin liners was used on 140 miles in Virginia and West Virginia. Each process gave good results from both the cost and construction standpoints, but in order to get this result, very close and efficient supervision must be maintained; and in country of such varying contour as that covered by our welding operations, good judgment on the part of gang foremen must be ever present in determining the length of sections and number of couplings economically suited to the continuously changing ground conditions.

Our line has now been in operation several months, and I cannot find that we erred in our judgment and recommendation of the amount and kind of welding that was to be done on this work.

Little or no change in backfilling methods has been recently developed. Machines are used where ground conditions permit, otherwise hand work must prevail. Too much stress, however, cannot be laid on obtaining a good and complete job of backfilling through rough country, as the safety of the line is vitally concerned with this part of the work.

River Crossings

River crossing practice has changed much in recent years, but most of this change is in the material used and was brought about by the advent of dependable welding. The practice of manifolding large lines in river crossings has been and continues to be general throughout large pipe line construction work.

We have used for a number of years heavy 10¾-inch O.D. pipe, seven-sixteenths inch or one-half inch thick, in 40-foot lengths for all manifold river crossings. These joints are acetylene welded and a pipe sleeve of ⅜"x11¼"I.D. x30" slipped over the weld and welded at each end to the sides of the 10-inch joint. This forms a neat, stiff joint at all 10-inch welds, and will effectively seal any leakage that might occur due to the failure of the 10-inch weld. In our work on the Seaboard line numerous rivers were crossed requiring manifolds, but only two of these crossings, the Potomac and Susquehanna, called for any special treatment, and even then, the methods used were old practices magnified by the unusual size of the job and a few local conditions peculiar to those jobs.

The Potomac River crossing 3,400 feet between headers, and rock bottom throughout, included 1,200 feet of islands. This river was too shallow to use dredges or barges, and yet too deep and swift to work men in the ditch, so that special construction methods had to be used. Drilling and loading for shooting was done from movable trestles, and the ditch was cleaned after shooting by a mounted crane with clam shell bucket which moved forward in the completed ditch on timber mattresses of sufficient thickness to raise the working parts of the crane above the water. After completion of the ditch, the 5 and 10-inch lines were dragged through the ditch and across the channels with cable winch and tractors.

Different Problem Presented

The Susquehanna River crossing 2 miles above the Conowingo Dam presented an entirely different problem, and also called for special treatment. This crossing 4,000 feet between headers, with rocky precipitous banks on both sides, a railroad along the east bank, 3,100 feet of water surface 70 to 125 feet in depth, very rough on windy days, and no boats on the lake larger than 18-foot launches, forced the use of some special methods and equipment.

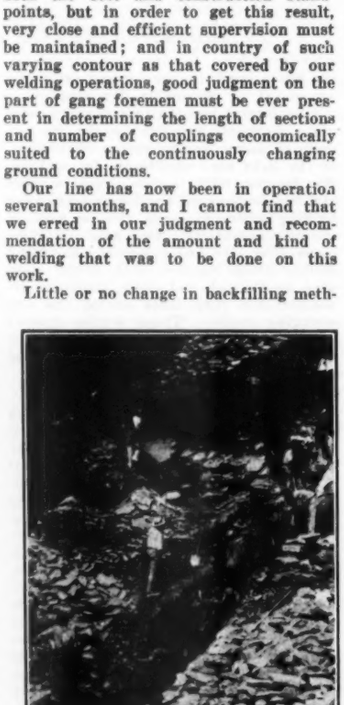
Facing such conditions, it was decided to float the 5 and 10-inch crossing lines into place. For this purpose 24 floats were built using four joints of 20-inch pipe as the framework. In the hollow square of each twenty-two 50-gallon gasoline barrels were fastened. A pipe windlass was installed on each float on which the weight of a section of about 150 feet of the line was supported. The 20-inch pipe used in these floats was later salvaged and placed in the pipe line.

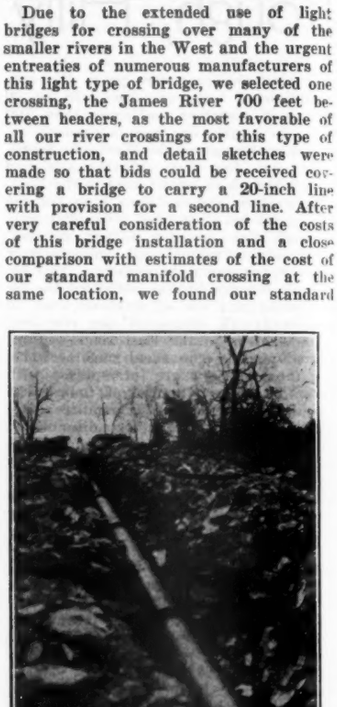
Making use of an abandoned road with a diagonal approach to the lake along the west bank, a graded incline to the water edge was built, and the lines were acetylene welded on this incline in about 500-foot sections. These sections when completed were pushed by tractors into the lake, the end being picked up and slung under the first float, leaving the line 6 or 8 feet below the water surface. As extra sections were welded together and the line forced further into the lake, additional floats were attached at intervals of about 150 feet until the entire length of 3,100 feet of line weighing nearly 100 tons, was in the water and supported by the long string of floats. During this launching process the floats and line were kept about 100 yards from the west bank. As soon as an entire line was afloat, weather conditions permitting, launches and tractors attached to the floats with long cables towed and swung the floats with the line across the lake and brought them to the location where the line was to be lowered to its final resting place on the bottom of the lake.

Lowered to Bottom Without Accident

Careful soundings that had been made allowed bends to be placed in the line so that it would fit the general contour of the bottom. In this manner the five 10-inch lines were successfully launched, floated into position and lowered to the bottom of the lake without accident.

Due to the extended use of light bridges for crossing over many of the smaller rivers in the West and the urgent entreaties of numerous manufacturers of this light type of bridge, we selected one crossing, the James River 700 feet between headers, as the most favorable of all our river crossings for this type of construction, and detail sketches were made so that bids could be received covering a bridge to carry a 20-inch line with provision for a second line. After very careful consideration of the costs of this bridge installation and a close comparison with estimates of the cost of our standard manifold crossing at the same location, we found our standard crossing to have the advantage and at the same time it eliminated much of the flood hazard present on overhead crossings. Unless water conditions are unusually foul and corrosive, we cannot recommend the use of overhead crossings on eastern streams for large pipe lines.





These pictures show characteristic rock work in West Virginia and Kentucky.

Corrosion Protection

Our experience with pipe corrosion in the general run of eastern soil does not in my opinion warrant expenditure for expensive painting or heavy coating of large pipe lines except at occasional and widely separated points, which can usually be recognized during construction as dangerous sections. In our recent work a light coating of Bitumastic primer was applied at the mill, except on 8-inch at the ends of the joints. All welds were painted with asphalt paint extended to cover the section untouched by the mill coat, and river crossing lines were given a coat of asphalt paint in addition to the mill coat. Where no unusual soil conditions are found we are well satisfied with this treatment.

Preliminary tests of the line to 100 pounds, the capacity of the drilling compressors, were made as rapidly as 5 or 6-mile sections between gate valves or temporary valves were completed, ethyl mercaptan being used as an odorant for detecting leaks. When adjoining gate sections were completed and enough volume of air had been stored, during the test work to clean the line, this air was used with good results to blow these short sections, giving us a line well cleaned and ready for service.

Public Utilities Should Co-operate With Dealers In Selling Appliances

Purpose Is to Encourage Customer In Making Fullest Use of Service

By J. F. Owens
President, National Electric Light Association*

We hear much talk these days about a world economic crisis and it is rapidly becoming the fashion to place the responsibility for any and all of our difficulties and our failure to solve them on the existence of this crisis. It would seem as though we never had had any problems before the present serious situation settled down upon us like some great international fog recognizing neither geographical nor national boundaries. It seems to me that a vast amount of energy is being spent in trying to fix the blame for unemployment, overproduction, underconsumption, disturbances of international trade balances, or whatever other glittering generality we may choose to employ in describing this world-wide situation, and not quite enough in diagnosing some of our own ailments and their relations, if any, to world affairs.

More and more important becomes the work of organizations such as yours, and one of its functions is to bring your attention at annual conventions to problems confronting your business that have a wide or national aspect. These organizations, so to speak, are the roots of the national association, roots that reach out fibres into every remote part of the country. Through them is drawn the information that furnishes the basis for the association's activities. To them are returned the results of research and study, and the analysis of correlated and coordinated information. No group is self-sufficient or concerned only with local conditions. Today a problem in California may be purely local; tomorrow it may burst into national prominence.

Merchandising Appliances

Probably the most pertinent illustration is to be found in the question that is now agitating the minds of utility operators in every section of the United States. Nor is this agitation confined to the gas industry; it applies to the electric light and power industry as well. I refer to the question as to whether or not public utilities shall be allowed to continue in the discharge of their duties to the communities which they serve, by merchandising appliances.

It would seem, at first blush, that it would be easy enough to maintain the position, which I believe to be sound, that it is not only the right but the duty of the utility company to show, through merchandising, the uses which our customers may make of gas or of our service for their own comfort, convenience and happiness. But to maintain a position, however sound, against a firm opinion to the contrary, held by members of influential groups, is difficult if not impossible.

The gas industry, touching as it does millions of homes, shops and factories, has an obligation even greater than that of supplying an adequate quantity of gas when, as, and if needed. Because of its monopolistic character, like other utilities, it is a shining target for the shafts of those who, either through misunderstanding or from an ulterior motive, would assail it.

By far the greater number of criticisms against us, and I use "us" as applying to all utilities, arise from our failure to create in the minds of our customers a proper understanding of our policies, our acts, and our motives. The first step in creating understanding is to put ourselves in the other fellow's shoes; to attempt to learn something of his problems. In short, to attempt to understand his viewpoints as we should wish him to understand ours.

Concern of Retail Merchants

My contacts with merchants, with presidents of national associations and with managing directors of these bodies, have convinced me that there are many underlying causes for concern on the part of retail merchants that their business may soon vanish through onslaughts of many economic changes that have developed within the last few years. In one interview it was stated that consolidations and mergers, with the resultant bringing together under one direction of great numbers of employes, have led to arrangements being made by purchasing agents of the consolidated groups to buy at wholesale many articles formerly purchased from regular retail establishments. Automobile tires, furniture, jewelry, even clothing, have been provided employes through wholesale purchase. The retailer, seeing what he has been disposed to consider his market slipping away, is naturally concerned, and when a utility company enters the merchandising field it is not astonishing that he considers the utility as only one other agency invading his domain and taking from him that which he believes to be rightfully his.

The independent retailer is nervous about chain store aggression. He relays this nervousness to the headquarters of his national association. The distressed condition of the times and the falling off of purchases in his business add to his panic. He is willing prey to the advances of the agitator, the racketeer and the self-seeking politician who counsel a resort to what should be the last refuge of business of any character for the solution of its ills, legislation.

Retailer Plays Important Part

On our part, there should be a recognition of the fact that the retailer has played, and should continue to play, a very important part in the economic life of the nation. We should recognize that he is usually a man of influence; that he has contacts with many hundreds of men and women who are our customers. We should further recognize the fact that we desire and need his assistance in doing the job that has been delegated to us, that of rendering the fullest possible service to the homes of the nation.

In too many cases we have failed to give recognition to these facts. In too many cases we have gone blithely on our way, merchandising appliances without giving thought to whether or not our methods of merchandising were such as would conform to recognized merchandising principles. We have not encouraged the hardware dealer, the furniture dealer and the department store to promote the sale of appliances. We have not counseled with him; we have not guided him; we have not sought his aid in doing the job. After all, there is no justification for a utility merchandising, except as it is necessary to bring the attention of its customers to the use they may make of our service in their own interest.

As a result, bills have been introduced, and in two cases passed, prohibiting utility companies from merchandising. Bills introduced in a number of other states failed to pass. Organizations came into being to foster antiutility merchandising legislation.

No doubt you are familiar with the meetings held in New York between representatives of the National Retail Dry Goods Association, the National Retail Furniture Dealers Association, the National Hardware Dealers Association and representatives from the utilities. From these meetings originated principles on which merchandising should be done. There is nothing more vital at this particular time to utilities than to make these principles effective, as our industry is on trial before a very formidable section of the body politic.

Community Forums

I believe there should be set up in every community in this district a forum wherein there can be an exchange of ideas and wherein there may be a frank discussion of all the problems involved in this whole question of merchandising. I need not point out to you the corollary advantages that may flow from such conferences.

Broadly speaking, a man informed about our business is a friend gained for our business. It will be obvious to you the opportunities that conferences offer to make friends. We should consider the merchants handling appliances our allies, not our competitors. We should help them to the extent of coaching their salesmen, informing them, not only on the technical phases but on company policies, rates, costs of service and many other informative facts that need to be disseminated to the rank and file of our customers.

I am glad to bring you the information that, as a result of the conferences already held, there is a marked change of attitude on the part of the leaders of the national associations participating in the conferences. The National Retail Dry Goods Association is openly opposed to a resort to legislation. The managing directors of the National Retail Furniture Dealers Association has, in at least one instance, in response to a letter, expressed himself favoring co-operative measures as opposed to legislation. Our friends in the retail business are ready to co-operate with us. We should meet them more than half way.

Specifically, in every locality, each executive should call together the heads of every business having to do with retailing of appliances; should welcome the co-operation of these retailers; should suggest the need of coming to an understanding on merchandising principles; should offer the company facilities in the training of salesmen in the acquainting of individuals in the retail organizations with rates, cost of service and all other factors which to the utilities are elemental but to the retailer are unknown.

Taxes High and Going Higher

There is another problem facing us not only as an industry but as citizens. Throughout the length and breadth of this land there is a growing feeling that something is wrong in government affairs. Taxes are high. They are mounting higher. The cost of government has grown to staggering sums. No patriotic American citizen objects to paying his full share of the cost of government, provided he can be assured that his contribution to government is being wisely expended in his interest. There is a growing feeling that we are forgetting the principles underlying the fundamental law of the land as enunciated by the makers of the Constitution. No one can deny that a government, to fill the need of the people, must be sufficiently elastic in the application of fundamental principles to meet the changing conditions which every era brings forth. There must be, there should be, progress in government as in every phase of civilization.

Recognizing this, government should adapt itself to meet the needs of changed conditions. But certain underlying principles and truths are eternal. These underlying principles, as they apply to government, were never so well enunciated as in the declaration that its prime functions are to provide for the common defense, to promote the common welfare, and to secure the blessings of liberty to the nation's citizens and their posterity.

Certainly the authors of the Constitution were intensely jealous of the rights and the duties of the individual. Certainly out of bitter experience they had learned the fearful consequences of the invasion of those inalienable rights by government. I feel that I am safe in saying that there is growing a conviction that our government has, in a great measure, departed from the ideas incorporated in the basic law of the land, as enunciated by the authors of the Constitution of the United States.

Individual Should Act for Himself

No representative government can long exist when a centralized authority attempts to do for individuals what they should do for themselves. The perpetuation of a self-governing nation rests upon a self-reliant, well-informed citizenship, jealous of individual rights and ready to accept the responsibility and the consequences of individual acts.

If it is true, as I believe it to be, that our government has gone far afield from the original conception of its functions by its founders, it is no more than fair to state that, in a great measure, the responsibility for its invasion of individual rights rests squarely upon us, the citizens of the nation.

An illusion of riches has lulled us into a sense of false security. We have had no time to think of our duties as citizens, and while we have been busy building up a mushroom prosperity, bureaus and bureaus have taken over the tasks and the duties which belong, of right, to us as individuals.

Senator Borah is authority for the statement that the independent bureaus at Washington waste $1,000,000,000 per year. This is one-fifteenth of the annual cost of the national government. It is said that the 100 independent bureaus in Washington cost more than the entire national government cost 25 years ago. Certainly we know that they are taking over many of the functions that are inherently ours and that they, through their influence, are causing a serious invasion into fields that have hitherto been considered the proper sphere of private enterprise.

Letting the Government Do It

It is time that you and I, as citizens, should awaken to a realization that we have within ourselves inherently the power to perform many of the functions that we have shifted to a supposedly all-powerful and omnipotent government. It is time that you and I were awakening to the fact, for I believe it is a fact, that our government is, in the last analysis, no stronger than the sum total of the capabilities of the individuals who are its component parts. Certainly there are functions that it is proper for us to delegate, but there are certain individual rights which can never be delegated nor alienated.

If it is true, as statisticians allege, that the average householder pays approximately $600 per year, $50 per month, to support some form of government, and if this realization can be driven home to every citizen of the land, it should be evidence sufficient to warrant a very active interest on the part of each of us, to the end, at least, that we shall

*Before annual convention Natural Gas Department, American Gas Association, Tulsa, May 9-11.

know for what purpose our money is being spent.

It is your obligation and mine, as quasi-public servants, not only to inform ourselves but others on any tendencies that exist to undermine the basic principles of a government, under which the greatest civilization that the world has ever seen has been developed and fostered.

Overlook Resource

I cannot close these remarks without bringing your attention to what to me is the most important function of a utility executive. We have within our ranks a resource that has been, and still is, too often overlooked, a resource, which, if properly cultivated and made effective, can make of our organizations what even the most idealistic of us would wish them to be.

I speak of the men and women with whom we have surrounded ourselves and to whom have necessarily been delegated many of the functions of the operation of our properties.

It has always been amazing to me that we, who are engaged in a business dependent for its very existence on the graces and good wishes of those whom we serve, should have overlooked or failed to develop the only resource that can deal with our customers. Of course you know that I am speaking of our employes. I have a conviction that the success of any business, more particularly of our business, begins and ends with the care that we use in selecting the men and women who, in a great manner, shall determine its success or its failure. Employe selection is a vitally important thing. To say the least, we should use as much care in the selection of the human element of our business as we do in the choosing of the mechanical elements instrumental in our material operations.

Nor is care in selection sufficient. An uninformed human being is a machine, nothing more, nothing less. Our employes should be informed. We should select only those who are capable of assimilating information. They should be so thoroughly informed about our business and its relationship to and with our public that they not only can but will interpret us as we would be known to those whom we serve.

Primarily an Executive Problem

The question of employe training is primarily an executive problem and is worthy of at least the interest that the executive gives to the physical conduct of his business. No gas plant, no matter what its cost, no matter how cheap it may place a cubic foot of gas into the customer's home, is so important in the conduct of our business as any of the employes with whom we surround ourselves.

Make no mistake, those who have delegated to us an important service expect from us the information which they should have, properly to utilize that service in their own interest and profit. What better media of transmitting such information to them than the men and women who have been selected by us as our coworkers? If every one of the men and women who have dedicated their lives to the utility business in these United States could be so informed and so inspired with the responsibilities and the possibilities of their positions that they would go forth among their neighbors and friends, seeking every opportunity to inform them not only of the uses they can make of our services to their own comfort and convenience, but of the many other phases of the business on which the public is seeking information, the agitators and the demagogues would find their fiery shafts bounding against an unheeding public.

The need of American business, and particularly of our business, is that those responsible for its policies shall have a deep consciousness of the fact that we are public servants, to whom and to whose organizations has been delegated by the public the great responsibility of an important service. Having this consciousness, it follows that we should so inspire our fellow-workers that they too shall be fired with almost a religious zeal in the public service.

Deep Cable Well Presents Problems

Only 18 Days Consumed in Fishing Jobs Thus Far in Drilling Interesting Test in Roane County, West Virginia

By H. A. Wallace
President, Charleston Group, Columbia Gas & Electric Corp.*

I trust that a few remarks in regard to our ordinary drilling practice in southern West Virginia and eastern Kentucky will not be out of order before the subject of deep drilling is discussed. You are all familiar with the eastern pay sands and the well-established guides to drilling these sands, such as the Pittsburgh coal, the big lime and the Berea sand, one or more of which formations are encountered in all of our drilling operations. It has been and is the practice of many in the development of production below the big lime to set 6⅝-inch casing in the upper part of the lime and drill a 6⅝-inch hole to the pay sands.

Our experience in the drilling of many hundreds of wells has caused us to change this program by having the 6⅝-inch hole reduced to 5¾-inch at the bottom of the big lime and drill this 5¾-inch hole into the pay sand, which of course forms a shoulder on which later a string of 5¾-inch casing can be set provided it is found necessary, as the 6⅝-inch shuts off a large body of water and may later develop leakage. Having this shoulder, we can then insert a string of 5¾-inch casing, also tube the well and set the tubing packer against the wall. The use of this shoulder permits us to pull all of the casing except the inside string.

As most of our long-life wells in the Appalachian region are of comparatively small volume, and shooting is a general practice to open and enlarge the hole at the pay, we do not believe that the reduced hole appreciably decreases the delivery of any well.

As our ordinary drilling practice uses wire line with 400 to 500 feet of cracker, we require the removal of the cracker when drilling reaches the reduced hole, as this permits the use of a wire line rope socket with 2½-inch neck on the 5-inch tools. This change is insisted upon, as it allows the use of a heavy bowl on 5-inch fishing tools.

Brown Shale Formation

It may also be of interest to you to know some of our experiences with the brown shale formation, found in southern West Virginia and eastern Kentucky, which is the widest and most dependable producing formation in the State of Kentucky. This brown shale is found at various depths below the Berea sand varying from 1,500 to 4,600 feet below the surface, and the productive part, averaging about 500 feet in thickness, is separated into layers 40 to 350 feet thick, by layers of slate of variable thickness. To obtain maximum production from this shale it has been found necessary to shoot the entire shale formation, using for this purpose 8 pounds of gelatin per foot of 6⅝-inch hole shot. Wells showing from 0 to 20,000 feet open flow when drilled are by shooting increased to from 200,000 to 1,000,000 feet open flow. A number of earlier wells drilled through this shale were abandoned as nonproductive before the effects of shooting upon this apparently almost barren formation were discovered.

Deep wells in the East, that is, wells over 6,000 feet in depth, are so few that they may be counted on the fingers. Eight, I believe, have been drilled, the deepest of which was the Lake well drilled by the Hope Natural Gas Co. near Fairmont, W. Va., to a depth of 7,579 feet. Each one drilled has been very costly on account of the use of special equipment and casing, extended drilling time, and fishing jobs that have finally plugged the hole before the goal set could be reached.

Any organization that decides to drill one of these deep test wells profits by the errors of those who have preceded it, and tries to use such methods and equipment that the known causes of other failures may be eliminated. It was with these things in mind that we made plans for our deep test well in Roane County, West Virginia.

Cable Tool Method Chosen

It was believed by our geologists that in this area a depth of 8,500 feet would test all of the probable producing sands, but due to the known large variation in thickness of many formations below the Berea sand, it was deemed advisable to make preparations to drill at least 9,000 feet of hole. Thorough investigation and comparison of rotary and cable tool methods as applied to our particular conditions were made and these investigations resulted in a decision in favor of the use of cable tools. Immediate steps were then taken to determine the size of the first or largest string of casing, which of course forced the definite determination of the number, size and probable length of all strings to be run. After consultation with the casing manufacturers, we decided upon the following casing plan which you will note was closely followed as actual work progressed.

Size	Proposed	Actually used
18⅝-inch O.D.	600 feet	624 feet
16-inch O.D.	1,000 feet	1,001 feet
13⅜-inch O.D.	2,100 feet	1,947 feet
10¾-inch O.D.	4,600 feet	*4,131 feet
8⅝-inch O.D.	5,200 feet	5,221 feet
6⅝-inch O.D.	6,100 feet	†6,886 feet
4½-inch O.D.	7,600 feet	‡None

*The 10¾-inch was run early on account of dangerous caving hole. †By cementing caves the 8-inch hole was carried to 6,886 feet, requiring the use of the additional 6⅝-inch casing, but saving string of 4½-inch casing. ‡Water was found in the Medina white sand below the Clinton at 7,135 feet but not in such quantities that it was necessary to run 4½-inch casing.

Gas Engine Power Adopted

The long difficult haul to the location and the heavy fuel consumption of boiler and steam engine power, as well as our experience in drilling wells over 5,000 feet deep with gas engines, led us to seriously consider and finally adopt gas engine power for this well. All of the deeper operations were carried on with a 200 horsepower twin cylinder Franklin valveless gas engine. This outfit furnished ample power, in fact more than necessary for straight drilling purposes, and we found that the use of one cylinder worked best for actual drilling, the second cylinder being "cut in" for the heavier work when pulling out, bailing, or running casing.

A special extra heavy reinforced 87-foot steel rig with 24-foot base, equipped with calfwheels was furnished by the Parkersburg Rig & Reel Co. On account of the excessive weight of some of the casing strings, we were greatly concerned about the foundation of the rig. Over 100 cubic yards of concrete were used in this foundation and the inclosed pit, where the blocking and spiders to hold the casing were located. The rig and foundation have both given wonderful service. A specially designed new hydraulic type of brake placed on the sand reel at 5,200 feet and on the bullwheels when the drilling reached 7,500 feet, has proven most serviceable and valuable. The steel bullwheels are 8 feet in diameter with 14-inch face; the calfwheels, 7½ feet with 12-inch face brakewheel, chain driven.

The length of strings of casing used has already been noted, but I now wish to add some description of the problems that had to be met in running this casing. Six strings of casing with a total weight of 432 tons have been successfully run; the three longest and heaviest of these strings are here noted in detail:

Size	Length	Weight
10¾-inch O.D.	4,131 feet	106.0 tons
8⅝-inch O.D.	5,221 feet	100.0 tons
6⅝-inch O.D.	6,886 feet	90.2 tons

Had to Be Run in Dry Hole

All of these strings, on account of the danger of caving, had to be run in a dry hole. I do not know of any attempt ever having been made before to run such heavy long strings of casing without the assistance of a float valve and a hole partly filled with water to relieve the strain on both casing and equipment. I feel justly proud of our success in running this casing, as it was not an accident, but something carefully planned and carried out with great care as to detail by the men on the job, and is something that I believe can be repeated as often as the occasion or necessity demands. Heavy steel casing shoes were used on all strings. About one-half the tension was removed from each string, placing a large part of the load on the spider and the floor of the pit. I am informed that the 6,886 feet of 6⅝-inch is the longest string of 6⅝-inch casing that has ever been run in a dry hole.

After spudding was completed, drilling was begun with a ⅞"x4,000' Leschen wire line, using 425 feet of 2½-inch manila cracker, 6-inch tools and a bit dressed to 20 inches to take care of the 18⅝-inch outside diameter casing. The cracker was removed at 4,000 feet. Caves were cemented and successfully shut off in both the 10-inch and 8-inch hole using over 1,500 bags of portland cement with 192 gallons of quick set compound. At 4,000 feet a 1"x7,500' line was substituted for the seven-eighths inch line and later as the drilling proceeded beyond 7,500 feet a combination line was made up, 4,000 feet of 1⅛-inch line and 6,500 feet of 1-inch line joined by a long factory made taper. With this line we drilled to a depth of 9,104 feet and I believe these combination lines will permit drilling with cable tools to a depth of about 12,000 feet. A very close and continuous inspection of the cable during all of this drilling does, I believe, account for the small number and insignificance of our fishing jobs. A very slight drawing down of the cable when noted at a point just below the wire line clamps caused us to change and increase the size of the upper portion of the line.

Explosion Halts Work

At our present depth of 9,104 feet the tools were stuck by cavings and one stormy night about midnight while awaiting the arrival of a specially designed rope knife, there was an explosion of unknown origin in the casing pit which damaged the rig and caused enough fire to burn off the wire line at the top of the hole. This line is now being removed from the hole. Up to the date of this accident actual drilling time on the well amounted to 449 days. Only 18 days of this time was chargeable to fishing jobs, but 62 days were required for cementing. No cementing has been done since the 6⅝-inch casing was set. The hole has, so far as we could determine, been perfectly straight and plumb. Temperatures were taken by government representatives of the Bureau of Mines to a depth of 6,500 feet showing 135° F. at this point.

No commercial production below the Berea sands has been found at our present depth of 9,104 feet. Small productive indications were found at:

4,845 feet—show of gas, Brown shale.
5,221 feet—show of gas, Corniferous.
5,896 feet—show of oil, Niagara lime.
6,402-07 feet—show of oil and gas, Niagara lime.
7,119 feet—show of gas, white Medina.
7,135 feet—2½ bbls. water per day, white Medina.

*Before convention Natural Gas Department, American Gas Association, Tulsa, May 9-11.

Natural Gas Industry Takes Forward Stride During a Difficult Period

Expansions and Improvements in 1931 Estimated to Have Cost $350,000,000

By Elmer F. Schmidt
General Superintendent, Lone Star Gas Co., Dallas, Tex.*

If the doctor of business had taken the pulse of the natural gas industry during the past two years, he would have found it subnormal with regard to current operations but far above normal with regard to new and extensive improvements and long extensions to distant markets. No other industry in the United States has made the forward movement that the natural gas industry has undertaken during this perilous period. During 1930, this expansion rose to the tremendous amount of $230,000,000 and in 1931 to nearly $350,000,000.

These large expenditures cover only the investment in pipe lines, compressor stations, and other necessary apparatus required for the transportation of gas. Many millions of dollars were also expended for leases, geological work, drilling of wells, investigation of markets, and other requirements preparatory to the introduction and use of natural gas. Then, in addition to these vast sums, it followed that industries were required to prepare their boiler installations to use this service and the individual consumer purchased millions of dollars worth of highly efficient appliances to better avail themselves of the world's most perfect fuel.

All of this activity gave employment to millions of workers throughout the nation. Mines, railroads, steel mills, pipe mills, equipment manufacturers, automobile manufacturers, shops and factories of so many different varieties were involved in this work to the extent that practically every basic industry in this country was to a greater or less degree directly affected by this unprecedented expansion. There can be no doubt as to the tremendous help which the natural gas industry gave toward alleviating unemployment during these last two years.

In the Front Ranks of Business

Natural gas is gradually earning the place in the front ranks of the business of our country to which it is entitled. Not many years ago it was the opinion of many that the remoteness of large gas fields from large centers of industry and concentrated population, precluded the possibility of this natural resource becoming available to them. It was impossible to bring the cities to the gas fields so the natural yet difficult and sometimes almost unsurmountable task of taking this fuel to the far distant markets was accomplished. The stupendous length of these recently constructed lines brings about a unique condition in that summer weather may and often does prevail at the field or source of supply while at the other terminus the consumers are subjected to snow and cold weather. Thus the construction of these lines has literally brought comfort and ease to the whole United States in a remarkably short space of time.

The rapid growth and development of our country has been due largely to the vast expansion of the great utilities of our country whose stock in trade consists of heat and power. And this expansion has been due primarily to the advance of science and engineering. Science tells where to expect gas and petroleum by methods which were unknown a few years ago. The seismograph, magnetometer, and the interpretation of the data gathered with the use of these and other instruments help to eliminate some of the uncertainties of drilling. Drilling methods have improved until we are not surprised when wells are drilled nearly 2 miles deep and this does not seem to be the limit. Texas has large producing wells nearly 9,000 feet deep with rock pressures commensurate with the depth.

Methods of Pipe Manufacture

Science and engineering again have helped tremendously in making these long lines possible in the complete change in the methods of pipe manufacture. This change has practically revolutionized some of the pipe mills and caused a loss in machinery for manufacture of pipe amounting to many millions of dollars. Electric welded and seamless pipe have nearly supplanted other types of pipe. This newer method has made it possible for one pipe factory to make many miles of 20-inch pipe a day, where only a few years ago it was unusual for any mill to make even 2 miles of 16-inch pipe a day. All of the newer processes fabricate much longer lengths of pipe, and the pipe that one mill makes is limited in length only by the length of sheet that can be made of the proper width to be shaped into the diameter required. Electric welded pipe has changed from the original arc weld to fusion, stitch, or resistance weld, which permits considerably faster production than the original arc weld.

Perhaps the largest contribution the process has made to the advancement of gas transmission comes from the increase in the allowable working pressure for large diameter pipe. Pipe may now be purchased for any practical working pressure and with the increasingly higher carbon steels now being used we may expect considerable reduction in weight for a given diameter and working pressure.

Another advantage brought about with this new process is the complete absence of mill scale, both inside and outside of the pipe. This reduces the abrasion on regulator valves and gate valves caused by the scale formerly loosened from the inside, and gives a much cleaner and better surface on the outside, improving the application of protective coatings.

Tractors Speed Up Work

Again science and engineering have helped to a very large degree in perfecting sturdy yet portable and fast machinery to assist in the actual field work of laying these large lines. No longer do we require large numbers of men on back-breaking jobs of lifting the pipe and carrying joint by joint to the line. These men have been scattered along the line on less strenuous work and large caterpillar tractors now easily and with precision handle many tons of pipe. These big machines help to speed up the work and have played a large part in recent expansion of the natural gas industry. With them long welded sections can be quickly and precisely moved to a position over the prepared trench ready for connecting these long sections into a continuous line.

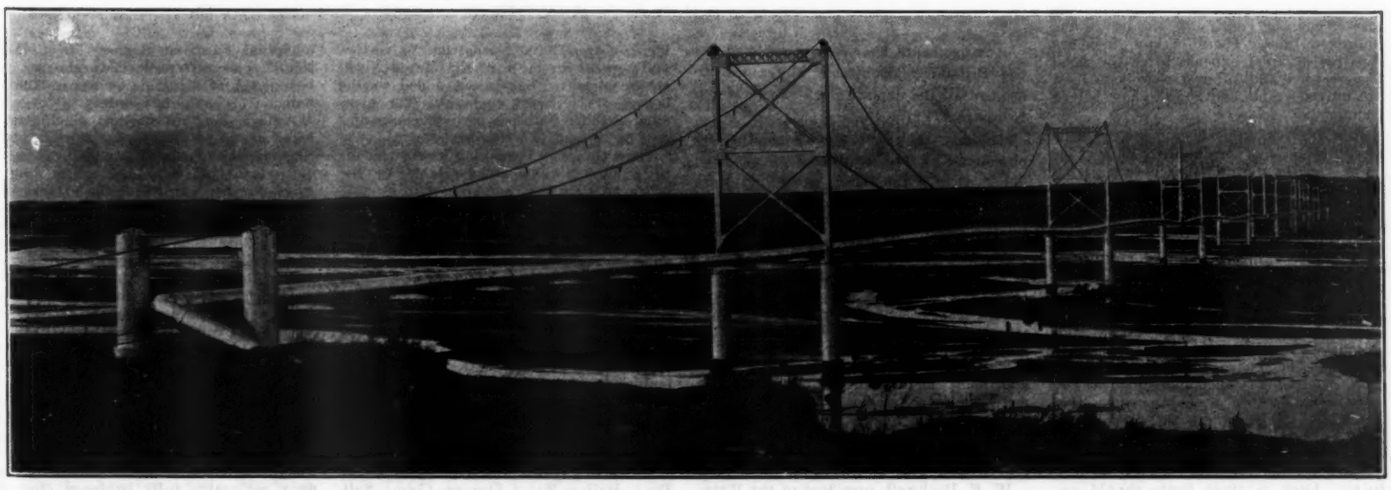
Considerable improvement has been made in other machinery used extensively in the construction of large transmission lines. Ditching machines for making the large trenches required for these lines have been steadily developed for more strenuous and continuous work. Many of these machines can even remove rock after it has been properly blasted. Here again much study and experimenting with proper spacing of holes and selected grades of explosives for various kinds of rock have brought about better fragmentation of rock and have increased speed in rock evacuation. Large sturdy backfilling machines, capable of rapidly replacing the large quantities of earth removed by the ditching machines, are now available. These became a necessity as the rapidity of laying the lines increased.

Three Methods of Joining Pipe Lengths

There are at present three different methods of joining the lengths of pipe received from the mill into a continuous line from the field to the distant market. Sometimes a combination of all three may be used on the same line, depending on the character of the country traversed. Couplings using rubber gaskets to make the joint gas tight are used quite extensively. These rubbers must be of special composition to insure that they remain resilient for the life of the line. Oxy-acetylene welded joints are becoming increasingly popular with the advancement that has come about during the past few years in the technique of this method. Comparatively recent improvements in the application of oxy-acetylene welding have increased by many times the speed of completing a joint. The third method also used extensively is known as electric arc welding. These two methods of welding joints properly applied will produce a joint that is stronger than the pipe. In California where there is only a small difference between seasonal maximum and minimum ground temperatures at pipe depths, solid welded lines as large as 26 inches in diameter have been laid successfully. It is difficult to provide the necessary slack to relieve the strain produced by wide variations of temperature and under this condition it is common practice to provide expansion joints or rubber couplings at regular intervals between welded sections.

In some territories chemicals contained in soil and drainage waters are very corrosive to steel pipe. There are hot spots where steel pipe unprotected will not last longer than 12 months before holes are eaten through the steel. Such places may be somewhat localized but often extend for a considerable distance. Again science has developed instruments which will indicate the electrical resistivity of soil which can be translated in degrees of corrosiveness. Surveys of this kind are often made over the proposed route of

*Before convention of Natural Gas Department, American Gas Association, Tulsa, May 9-11.



This bridge, 3,176 feet long, crossing the Canadian River near Borger, Tex., supports a 24-inch transmission line and insures against floods interrupting natural gas service.

the pipe line and protective coatings are applied to the pipe to guard against the action of the soil where necessary.

Life of Pipe Lengthened

Some advancement has been made in the quality and effectiveness of protective applications in recent years which has brought about a considerable increase in the useful life of steel pipe lines. Pipe coated with hot applications of tar or asphalt and wrapped with felts conforming to specifications desired by the purchaser may be obtained from any manufacturer. The Bureau of Standards, Bureau of Mines, American Gas Association, American Petroleum Institute, and other organizations have been making an intensive study of this problem over a period of years and the results obtained should be of considerable advantage to the gas industry.

Many and varied are the natural obstacles encountered in building a long, large diameter transmission line. Few there are who appreciate the tremendous task confronting a utility in transporting natural gas from the wells to the ultimate consumer. To the layman it appears simple enough that after gas is taken from the well it is sent through pipe lines to the appliances of our private homes and the boilers of industry far removed from the producing fields. The skill and ingenuity of trained minds in many branches of our large industries are involved in the actual consummation of this perfect service.

Prairies, hills, mountains, swamps, rivers, and forest are often encountered and some of these natural obstacles present unusual engineering problems. In going over mountain ranges it is sometimes necessary to blast solid rock for many miles to make a trench for the pipe. Through narrow mountain passes this work often requires as much rock excavation as is necessary for railroad or highway. In crossing long swamps, dredges are used and the pipe must be heavily weighted to overcome the buoyancy of the large diameter pipe submerged in this mixture of mud and water.

Rivers Present Difficult Task

Rivers probably present the most difficult task. Some of these rivers have beds which do not remain stationary during flood stage and in order to insure uninterrupted service several methods are in use in crossing such streams. The method commonly used in the past is called multiple line crossings. In this design, headers of the same size as the transmission line and connected to it are laid along the banks on either side of the river extending for a considerable distance up and down stream from the main line. A series of eight or ten separate lines, usually 10-inch diameter heavy steel pipe, are then laid in the river bed, bowed upstream and separated a distance of 50 to 150 feet. Each of these lines has a valve where it attaches to the header and in case one or more of the lines are broken during flood stage the valves can be closed eliminating the loss of gas and continuing the use of the unbroken lines. These broken lines are repaired at great expense after the flood has receded and often the broken lines are unrecoverable and have to be replaced completely.

Crossings of this type under wide rivers often cost originally $400,000 or more, and the maintenance over a period of years may equal or exceed the original investment. Where the river has a more stable bed this type of crossing does not present this hazard to the same extent, but the pipe is often subjected to unusual corrosion.

These multiple line crossings are now very often replaced with bridges carrying the main line directly across the stream. The type of bridge selected is controlled by character of the subsoil span, required clearance above high water, and the importance of the crossing. For flat wide streams where the rise during flood period does not exceed 10 to 15 feet, a practical bridge may be constructed of concrete bents spaced 60 feet apart. Each of these bents should extend into good solid subsoil to insure their stability when the current washes deep into the bed of the stream.

Where more clearance is required either from higher stages of the river or due to navigation, suspension bridges are usually built. It is extremely important that proper engineering and design be employed in this type of structure. The foundations are the most expensive part of these bridges and they must be so designed and constructed that they will be self-supporting under the most severe conditions. Wind stresses, expansion and construction of the exposed pipe, should receive careful consideration and the engineering designs should take these factors into account.

The largest suspension bridge built exclusively for carrying a pipe line has recently been completed across the Missouri River, near Sioux City, Iowa. This bridge has a clear span between towers of 1,280 feet and supports a 16-inch solid welded line over 50 feet above high water level. This bridge was built during the winter months and protection was provided during the freezing weather for the concrete while setting. The steel towers supporting the cables rest on reinforced concrete hollow piers composed of two cassions 12 feet in diameter and 45 feet below the natural ground on the Nebraska side and 50 feet on the South Dakota side. It was necessary to extend these cassions to these depths to reach proper footing for the support of the towers. For shorter spans crossing deep, narrow rivers, steel box latticed girder type bridges are very practical. One large natural gas company now has over 2 miles of large lines on bridges.

There seems to be some apprehension among engineers as to the relative cost of multiple line crossings and bridge crossings. In a great many cases these bridges cost less than multiple line crossings and they are usually designed to carry duplicate lines at some future date when required, which makes them very much less expensive if duplicate under river crossings are required to provide additional carrying capacity. If the cost were the same, the savings accrued from the maintenance of under river crossings as against bridges is an item worth serious consideration. From an operating standpoint the security acquired from bridge crossings insuring continuous service is also very important.

Large Compressor Stations Needed

In order to increase the capacity of long transmission lines, to overcome the friction of the flowing gas and to deliver the gas at adequate pressures to the consumers, large compressor stations are required. These stations are usually composed of large gas engine driven compressors. Single units of from 1,000 to 1,500 horsepower each are normally used. These units are installed in batteries of 5 to 15 engines at intervals along the line, depending to some extent on deliveries off the line between stations and also on the economic capacity of the line. These stations involve the expenditure of huge sums of money and are wonderful engineering achievements. The problems involved in the design and erection of a large compressor station are manifold and require a high degree of engineering skill and knowledge. A well designed and operated station presents a thing of great beauty.

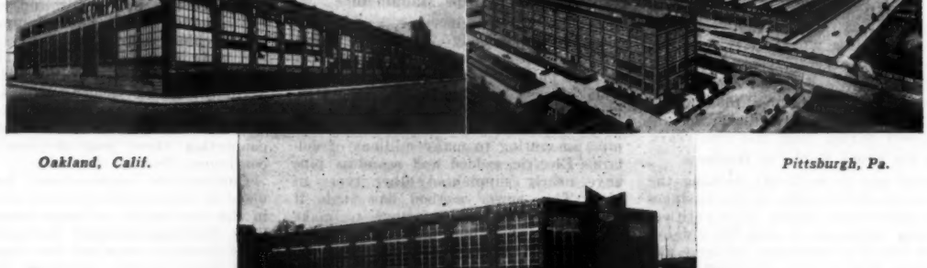
Large transmission lines extending from fields to great cities require their own telephone lines. The dispatching of gas is not dissimilar to the dispatching of trains, and like the railroads the telephone has largely supplanted the telegraph in the transmission of messages. The telephone lines parallel the pipe lines as nearly as possible and telephones are installed at strategic points along the lines where patrolmen who walk the pipe lines may report to the dispatcher in the office. Operating efficiency is greatly increased through easier and faster communication. The dispatcher has close contact at all times with the field departments and compressor stations. He is constantly in touch with pressure conditions all over the system and can regulate the supply of gas according to the demand. The private telephone system makes possible daily reports of deliveries and helps to insure an adequate supply of gas as needed at the points of consumption.

High Velocities Attained

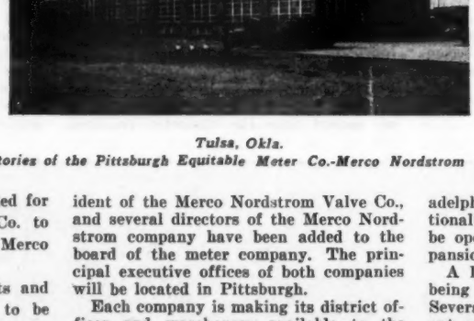
These large lines, operating at peak capacity, transport gas at velocities nearly 100 miles per hour. It will be observed therefore, that in the short span of 10 to 12 hours gas may be taken from the fields to the burners of the consumers, a distance of 1,000 miles or more. It is a well known fact, however, that the consumer need not wait for delivery of his requirements for it is always available to him instantly.

This generation should feel thankful that it lives in the gas age and we may all pay tribute to the captains of the natural gas industry, who, with confidence in the future and entire disregard for the depression, have made possible the extension of natural gas service to millions far removed from the source of supply.

PITTSBURGH EQUITABLE-METER NORDSTROM ANNOUNCE ASSOCIATION OF INTERESTS



Oakland, Calif. *Pittsburgh, Pa.*



Tulsa, Okla.

Three factories of the Pittsburgh Equitable Meter Co.-Merco Nordstrom Valve Co.

Arrangements have been completed for the Pittsburgh Equitable Meter Co. to acquire all the capital stock of the Merco Nordstrom Valve Co.

A study showed the sales efforts and objectives of the two companies to be along parallel lines and, accordingly, decided advantages could be gained through an association of interests, since Nordstrom lubricated plug valves, manufactured by the Merco Nordstrom company, are sold in the gas, oil and chemical trades to the same customers that are buying Emco meters, regulators and instruments from the Pittsburgh Equitable Meter Co.

This association gives each company additional manufacturing facilities—the meter company securing a Pacific Coast plant to take care of a rapidly expanding business, while the valve company acquires manufacturing facilities for serving eastern and mid-western customers.

W. F. Rockwell, president of the Pittsburgh Equitable Meter Co., becomes president of the Merco Nordstrom Valve Co., and several directors of the Merco Nordstrom company have been added to the board of the meter company. The principal executive offices of both companies will be located in Pittsburgh.

Each company is making its district offices and warehouses available to the other, so that the companies will be able to offer a much wider warehouse service to the trade.

Warehouse stocks for both companies will be carried at Los Angeles, Calif.; Kansas City, Mo., Chicago, Ill., and Columbia, S. C., as well as several other points.

Factory warehouse stocks, to cover the territory adjacent to New York, will be carried at Hopewell, N. J. Middle West factory stocks will be carried at Pittsburgh, Pa., and Tulsa, Okla. The factory stock for the West Coast will be carried at the Oakland, Calif., plant.

Sales offices will be maintained at all of the above points and also at Houston, Tex.; Dallas, Tex.; Denver, Colo.; Salt Lake City, Utah; Columbus, Ohio; Philadelphia, Pa., and Boston, Mass. Additional sales offices and warehouses will be opened at strategic points as the expansion of business requires.

A large amount of new machinery is being installed in the Pittsburgh plant. Several new products are being brought out which will be added to the line or which are accessories for the present line.

The Pittsburgh division of the Pittsburgh Equitable Meter Co. was founded by the late George Westinghouse, who was the first successful public utility operator to introduce natural gas for domestic purposes. The company has been a pioneer in the development of both gas meters and regulators for the natural gas industry. Merco Nordstrom Valve Co. was founded by S. J. Nordstrom, who invented the sealed port type of lubricated plug valve and is responsible for the many improvements which have been made in the last 15 years. Both companies have the very latest improved machinery for manufacturing their products and each company maintains fully equipped chemical and mechanical laboratories.

Differences Between Utilities and Dealers Should Be Adjusted

Major Reason for Friction Lies in Motives that Actuate These Groups

By LeRoy M. Edwards
General Counsel, Southern Counties Gas Co. of California*

There is probably no question before the gas industry today that is more vital or of greater interest than the question of how to best meet the drive that is being made to legislate the utilities out of the appliance merchandising field. Acute economic conditions have made the average merchant extremely alert to ascertain why he is not enjoying normal business profits, and the merchant is at present especially receptive to any suggestion that he may restore his earnings by legislating his competitor out of business. Many see in the movement a subtle, undercover attack against the utilities by the proponents of municipal ownership. Whatever the underlying cause may be, the issue is a real one. We had to face it before the legislatures of 14 states last year. In only two states did the movement succeed—in Kansas and Oklahoma. Antimerchandising bills were proposed and defeated in Massachusetts in March of this year. We are bound to be confronted with the same issue again in the legislatures of next year, unless we adjust the differences that now exist between us and the independent merchants.

That the utilities have the legal right to engage in the sale of appliances using gas and electricity is certain. This right has been repeatedly sanctioned by regulatory commissions and by the courts, both state and Federal. The courts of Pennsylvania have gone so far as to say that instead of preventing the utility from dealing in appliances, "it would be our inclination to insist that it is part of its duty to furnish them to its customers."

Economic Reasons Equally Apparent

The economic reasons that impel the utilities to engage in the sale of appliances seem equally apparent, both from the standpoint of the general public and from the standpoint of the utility. The position of the utility toward the general public is different from that of the independent merchant. The property of the utility is dedicated to the service of the public; it has a public duty to perform, from which, when once undertaken, it can not recede. It is bound to give to the public the highest type of service each and every hour of the day, year in and year out, at the lowest rates commensurate with a fair return upon the value of its properties used in the public service. The duty to serve the public economically, safely and adequately, is one from which the utility can not escape, and the public has the right to expect that the utility will conduct its business in every department so as to fully meet and discharge its obligations.

The consumer is ever insistent that the rates of gas and electric utility shall be reasonable, and it is expected of the gas and electric companies that the trend of rates shall be generally downward, even in times when the trend of prices for practically every other commodity is upward. This ever insistent demand for lower and lower rates has been met by the gas and electric utilities of this country by exerting every possible effort to build up the volume of gas and electricity sold, and the record of achievement by the gas and electric utilities of America during the past 20 years is one of which we can be justly proud. And the saving to the American people has run into hundreds of millions of dollars. Analyze the average domestic rate and the annual unit consumption of gas on the system of practically any gas company in this country, and you will find that as the unit consumption went up, the rate for gas came down. The general public has the right to expect and insist that the gas and electric utilities shall continue to use every lawful effort to build up their load, to the end that rates may be as reasonable as possible.

Building Up Demand Not an Easy Task

To build up the demand for gas is not an easy task. We are dealing in a commodity that has no appeal in and of itself. The consumer has absolutely no interest in gas as a substance. The interest of the prospective customer can only be aroused by displaying to him an appliance which can utilize gas. You can not sell a foot of gas to a man until someone has first sold him an appliance.

Practical experience has proven that an intensive and aggressive campaign to induce the use of gas through the sale of appliances is necessary if the load is to be developed, and no one but the utility is inclined or equipped or can afford to carry on such a campaign.

Prior to 1911 the gas consumers in the State of California were supplied with manufactured gas made from oil. Since that time there has been a gradual change from manufactured to natural gas, until today practically the entire State is on a straight natural gas basis.

This transition, which has meant so much to the consumers of the State, and is one of the important factors in the recent development of our State, has not been easy of accomplishment from the standpoint of the gas utilities.

Our experience in changing over many cities from artificial to natural gas shows that the average unit consumption of gas is cut almost 50 per cent the moment that natural gas is turned into the mains. It takes courage for a management to deliberately cut the output of a company in two; heroic measures are immediately necessary to overcome the resultant loss in revenue. Either the rates must be raised substantially—which is generally impossible—or the demand for gas must be increased, or the company goes into bakruptcy. The utilities of California met the situation by the adoption of an aggressive sales campaign to induce consumers to install new and better types of appliances—to encourage the use of gas in industries where it was not thought of before; by pioneering in the design and installation of new types of gas-burning appliances.

No One Else Could Have Done It

No one but the utility, spurred on by the absolute necessity of developing its load, could have accomplished the result which has been achieved. As said by the special master in the case of Brooklyn Borough Gas Co. v. Prendergast, 16 Fed. (2) 615, 636:

"Certainly no company could await the initiative of its prospective customers, nor the efforts of others to sell appliances before doing business."

Even the judge of the Kansas court which upheld the recent Kansas law against utility merchandising, recognized that the burden of building up the load could only be met successfully by the utility, when he said:

"Merchants dealing in appliances could not and would never have brought about the increases in the use of gas."

The independent hardware dealer, furniture dealer or department store, carries hundreds, if not thousands, of articles. Seldom has such a merchant the time, the capital or the inclination to push any particular line or article. Seldom, if ever, will he even leave the store for the purpose of soliciting business. The average hardware dealer and department store owner carries, in addition to gas stoves, electric ranges, wood stoves and oil stoves. He does not care particularly what type of stove is purchased, so long as he makes a profit. Whether a customer purchases an old-fashioned ice box, an electric refrigerator or a new gas refrigerator, is a matter of no moment to him. Only the utility engaged in the sale of gas has the incentive to go out into the field and place gas-burning appliances in competition with appliances utilizing other forms of fuel.

Citing an Example

If I may refer to the experience of the Southern Counties Gas Co. of California, I can give you a very good example of what has been accomplished by a natural gas company in southern California which has carried on for years an active campaign for new business, through the selling of appliances. The company was formed in 1911 and took over several old gas companies serving manufactured gas of about 550 B.t.u. heat content. In a short time the entire system was changed to a natural gas service, with gas of approximately 1,150 B.t.u.

In 1911 the average domestic consumption per meter per month of manufactured gas was 1,800 cubic feet. By 1928, this unit domestic consumption was increased to 4,624 feet of natural gas. The experience in three typical cities on the system may be of interest.

Santa Ana—	1911	1921	1931
Mean meters	1,762	4,663	9,277
Total M.c.f. sales	42,464	182,059	448,600
Annual M. B.t.u. unit cons.	13,255	44,899	55,360
Anaheim—			
Mean meters	455	1,990	4,119
Total M.c.f. sales	8,753	74,683	181,884
Annual M. B.t.u. unit cons.	10,580	43,158	50,560
Fullerton—			
Mean meters	372	1,460	3,070
Total M.c.f. sales	5,959	54,185	144,531
Annual M. B.t.u. unit cons.	8,810	42,680	53,905

A determined effort to provide for our consumers the most efficient types of gas consuming appliances, and an intensive and continuous sales campaign to place new modern gas appliances of every type and character within the home of each consumer was the means employed to achieve the growth in unit consumption and in volumetric sales to which I have referred.

New Uses Originated

In addition to urging our old consumers to purchase and use the more standard types of appliances, such as stoves, water heaters and space heaters, the industrial department of the company originated many new uses for industrial gas, inventing and installing gas equipment especially designed to meet the needs of the respective customer. Through the ingenuity of the industrial engineers of the company, appliances were designed and furnished which could not be purchased upon the open market anywhere. Some of the new uses which the industrial department of the company found for gas were most interesting, such as the firing of kilns in the ceramic and pottery industry, kelp drying, walnut drying, preparation of pimientos for canning, chili pepper drying, fish canneries, treating of fish nets, preparation of fish meal cakes. Each of these industries had previously used another type of fuel, and gas was not thought to be available as a fuel. The solving of the fuel problem for these industries by the gas engineers not only resulted in economies for the industries affected, but resulted in appreciably increasing the output of gas by the utility.

For the farmers in our territory we made a saving of $2,958,000 in 10 years by effecting a substitution of gas engines for the pumping of irrigation water in the place of electric power.

All of the foregoing is constructive work, carried on by the utility and of great benefit to the communities. To have denied to the gas utility the right to sell gas-burning appliances would have impaired its ability to carry on the splendid work of building up the natural gas industry which has meant so much to the communities served.

Participation of Utilities Necessary

The active participation of the utilities in merchandising is necessary if the public is to receive the benefit of new types of appliances. Our service to the public suffers if the appliance becomes inadequate for any reason. We are judged by the results produced by the appliance. If we are to be judged by this standard, have we not the inherent right to have an active voice in the type of appliances sold? We are constantly hammering on the manufacturers to produce better types of ranges, water heaters and space heaters. The manufacturer, as a rule, cannot afford to bring out a new product unless assured of a fair immediate market. This the merchandising utility affords him. The local independent dealer is seldom willing or financially able to pioneer. He will carry established lines, but he dare not venture into the new and unproven. The burden of pioneering must always rest with the utility. A few years ago the gas range was a rarity; today it is found in most modern homes. The standard appliance of today may become obsolete tomorrow, being replaced by a newer and better product.

The independent merchant is seldom inclined to even suggest to the manufacturer any improvements in design or construction. This for the obvious reason that rarely is the local merchant called upon to service an appliance—that burden falling almost exclusively upon the utility—and hence the local merchant is seldom aware of the inefficiency and imperfections of the article which he sells. The utility, on the other hand, being compelled as a rule to service appliances, is the first to detect the weakness in any type of appliance. And from the utility comes the insistent demand for improvement in the construction of the gas and electric appliances.

More Interested Than Anyone Else

In as much as the utilities are judged by the character of service received through an appliance, and in as much as the burden of the cost of servicing these appliances generally rests upon the utility, the utility is more interested than anyone else in maintaining the highest possible standard for appliances sold. The local merchant, on the other hand, is interested primarily in the profit to be made from the sale of appliances, and it is only human nature for quality to suffer at the expense of increase in profit. It is imperative, therefore, that the utilities engage in the merchandising of appliances for the reason that by so doing they can compel the independent dealer to keep on hand the better and more efficient types of appliances. The competition of utility merchandising is the only medium through which the pub-

*Before annual convention Natural Gas Department, American Gas Association, Tulsa, May 9-11.

lic can be insured of the ability to obtain the best and most improved types of gas and electric appliances.

Then again, the factor of safety is another impelling motive behind utility merchandising. Gas and electric appliances, if defective in design or construction, may lead to serious personal or property damage, and as a rule the gas and electric utilities are sued whenever injury results from a defective appliance. From the standpoint of their duty to the public, and from the standpoint of their own personal responsibility, the gas and electric companies should be afforded every means of insuring the general public of the ability to acquire the safest and most efficient appliances for the utilization of gas and electricity, and this maximum of safety can not be obtained in any other way except by permitting the utilities to engage in the merchandising of appliances, and thus compel their competitors to keep appliances of equal quality and merit.

Contention Proved Unsound

It is repeatedly claimed by those who are opposed to utility merchandising, that if the utilities either voluntarily retire from the merchandising field or are precluded by legislation from merchandising, the independent dealers of appliances will carry on the work as efficiently and as satisfactorily as when the utilities are permitted to merchandise. We have proven by actual and practical experience in California, that this contention upon the part of the opponents of utility merchandising is unsound.

The city of Long Beach, Calif., has a population in excess of 100,000. It is served with electricity by the Southern California Edison Co., Ltd. Acting upon a request from the dealers in the city of Long Beach, the Edison company discontinued the merchandising of electrical appliances in that city in October of 1930 for a period of one year, it being represented by the retail dealers that they were in a position to carry on the load-building activities of the Edison company and do as good or a better job. The Edison company accepted the challenge and discontinued all direct sales of appliances in the city of Long Beach. It kept up its advertising propaganda by matching dollar for dollar with the local dealers in promotional advertising, and the company also continued to maintain a display of appliances in its offices. All prospects for appliances were referred to the dealers and each prospect was given a card containing a list of dealers handling the appliances. Manufacturers and wholesalers of electrical appliances cooperated with the local merchants to an unusual extent in order to aid the local dealers in putting across this program of independent merchandising. You will be interested in the results.

Dealers' Sales Fall Off

The number of electric ranges sold in Long Beach during the first 11 months in 1930 by the Edison company alone was 220; the number of electric ranges sold to apartment houses during the same period, was 141; the number of ranges sold by dealers during the same period, was 11; total, 372 ranges. For the same 11 months' period of 1931, when the sales were handled exclusively by the dealers, the record follows: Number of ranges sold to apartment houses, 27; number of ranges sold by dealers, 59; total, 86; a falling off in volume of 286 ranges, or a reduction of more than 76 per cent.

The Southern California Edison Co. carried on another experiment in the San Joaquin Valley. At the instigation of local dealers in the cities of Visalia, Porterville, Tulare, Hanford, Exeter, Delano and Lindsay, the Edison company discontinued its direct merchandising of appliances at the beginning of 1931. Therefore this territory had produced a very substantial volume of range sales. The local retail dealers had assured the Edison company that if it discontinued its merchandising activities, the local dealers were in a position to do a thorough job themselves.

Here again the results were most interesting. During 1930, while the Edison company was in the merchandising business, the number of ranges sold in this territory was 722; during the year 1931, when the Edison company discontinued merchandising, and left the field entirely to the local dealers, the total number of ranges sold was 173, or a reduction of 549 ranges in one year, which, stated in percentage, was a reduction of 76 per cent in the amount of sales.

Thus the experiment of leaving the field exclusively to the local dealers both in Long Beach and in the San Joaquin Valley, showed that the result was a falling off of 76 per cent in the sales of appliances.

Not Result of Saturation

It can not be claimed that the falling off in sales of electrical ranges was due to saturation of the territory, because only 5.3 per cent of the wired homes in the United States have electric ranges installed.

In case it is claimed that the decline in electric range sales in the two experiments above noted was the result merely of the general economic decline, I point out to you the fact that the sales of electric ranges throughout the State of California as a whole during the year 1931 was but 31 per cent less than the 1930 sales. Compare this with the decline of 76 per cent in sales which took place in Long Beach and in the San Joaquin Valley in the two experiments to which I have referred.

Knowing as we do that merchandising

Local Managers Should Watch Laws

Participation in Civic Affairs Would Make It Harder for Politicians to Use Utilites as Football

By E. B. Reeser
President, Barnsdall Corp.*

What is the condition of the industry?

This question was asked of a number of executives in the natural gas industry. The reply, in most cases, was short and snappy, and apparently without giving the question much thought.

We are living in a changing world and it is important that each industry carefully check its condition and adjust its activities to fit the new order of affairs.

The natural gas industry has an enviable record—unequalled in many respects by any other industry. More than one-half a century of continued growth—it has had fewer "valleys and peaks" than any other industry and its record on the retirement of securities at maturity can not be matched.

In considering the condition of any industry today, we should forget the heyday of 1929 and the years immediately preceding it, forget the champagne conferences and settle down to near beer work and understanding.

How silly this grand old nation was in 1928 and 1929! As a part of that silliness, the natural gas industry joined other industries in an expansion program from which it is temporarily suffering.

Your suffering, however, has been nothing at all compared with the wreckage of corporate and individual activities in other industries.

"It is a gloomy moment in history. Not for years—not in the lifetime of most men, who read this paper, has there been so much grave and deep apprehension; never has the future seemed so incalculable as at this time. In our own country there is universal commercial prostration and panic. In Europe, the political caldron seethes and bubbles with uncertainty. Russia hangs as usual like a cloud, dark and dangerous upon the horizon.

"It is a solemn moment, and no man can feel an indifference in the issue of events.

"Of our own troubles, no man can see the end. They are fortunately, as yet, mainly commercial. If we are only to lose money and, by painful poverty, to be taught wisdom—the wisdom of honor, of faith, of sympathy, and of charity—no man need seriously to despair. And yet the very haste to be rich, which is the occasion of this widespread calamity, has also tended to destroy the moral forces with which we are to resist and subdue the calamity.

"Good friends: Let our conduct prove that the call comes to men who have large hearts, however narrowed their homes may be; who have open hands, however empty their purses. In time of peril we have nothing but manhood, strong in its faith in God, to rely upon; and whoever shows himself truly a God-fearing man now, by helping wherever and however he can, will be as blessed and beloved as a great light in darkness."

But That Was 75 Years Ago

I have been quoting from Harper's Weekly, of October 10, 1857.

Perhaps 1857 was too long ago to think about. Suppose we move along to where the natural gas industry was beginning its career. The year 1873 opened up fairly well and then proceeded into a panic in which money vanished and clearing house certificates alone kept business from stopping entirely.

In a diary kept by the father of Andrew Mellon, he wrote, "it was the most disastrous and extensive panic and collapse since that of 1819."

Then about the time many of us were beginning our activities in 1893, another panic struck the country. Business houses went on the rocks and many of the railroads in receiverships. Stock prices pitched downward and the bond market collapsed. Soup kitchens kept thousands from starving.

These trying times were followed by great prosperity which lasted until a temporary setback in 1907 due to excessive stock market speculation.

How many remember the chaotic conditions of 1913 and 1914? Stock prices cracked. Business was paralyzed. Banks all through the country were forced to suspend payments. Commodity prices dropped sharply. Then came the great war. Unemployment vanished and trade and prosperity expanded to undreamed of heights.

With the exception of a short period in 1921, these unparalleled days continued until 1929. Nothing can be added to what you know about the present conditions.

Isn't it interesting and helpful to know that the conditions we are facing are identical with those met so successfully by our forefathers?

The natural gas industry has turned the corner. The total revenues for February, 1932, were only 7 per cent less than for the same month in 1931. In view of the generally mild weather of February of this year, this small decline should be regarded as gratifying.

Stabilizing the Industry

May I widen the scope of my subject by offering a few suggestions as to what should be done to stabilize your industry?

First, and perhaps, most important, be more careful and conservative in the expansion of your facilities. Notwithstanding the fact that, after these many, many years, more gas is "in sight" than ever before, it is nevertheless an irreplaceable resource. Distributing facilities and potential markets now available to transmission lines are sufficient to deplete the supply within a period of years through which present capital expenditures should be returned.

Second, how long will business men and intelligent voters stand by and permit professional politicians to dominate local affairs? The interest of the stockholders of the utility companies and of the public is almost identical. Politicians use the utilities as a football and, in many instances, develop a feeling of distrust and hatred between consumers and the company. Generally speaking, local managers are selected because of their knowledge of physical problems. They know, or care, very little about civic affairs—in fact, they are often prohibited from taking part in local civic affairs. Taxation has become a real burden. Approximately one-seventh of the national income in 1930 was required to pay that year's tax bill. Whereas, corporations do their utmost to co-ordinate their activities and increase efficiency, Federal, state and local taxes are permitted to increase beyond all reason. Industry must ultimately take co-ordinated action in an effort to stop the tide. The time for drifting has passed. The utilities are often used as a smoke screen behind which, local and state extravagances are hidden. Every local manager should be required to take an active part in all civic affairs, especially on questions of taxation.

What Helps One Helps the Other

Third, the production of petroleum and the production of natural gas are so closely associated that anything of benefit to one is helpful to the other. The petroleum industry has definitely adopted a policy of conservation. This plan contemplates the equitable proration of production in the various producing areas. It likewise means ratable takings from each producing well, regardless of whether or not the producing company has an ample supply of its own. Any deliberate violation of this plan would result in the failure of the entire movement. Natural gas companies are accused of disregarding this modern idea. Recent decisions of the courts clearly indicate the legality of laws on this subject and it would be in the interest of gas companies to recognize the new order of things and work whole-heartedly toward the faithful observance of it. Failure to do so will mean more drastic laws.

Fourth, discussion of the Sherman antitrust laws is becoming more and more important. The present depression cannot be charged to these laws, although it will be admitted that certain phases of our national activities would have been more constructive had it not been for these laws. The majority of our citizens are not familiar with, nor greatly concerned in, the conservation of our natural resources.

In his message to Congress last December, President Hoover pointed out: "The people have a vital interest in the conservation of their natural resources; in prevention of wasteful practices; in conditions of destructive competition." He asked that a study of the antitrust laws be made to determine if these evils can be corrected without sacrificing the fundamental purpose of the laws. The laws have been construed on the assumption that free and unrestrained competition will create a fair price to all. As a matter of fact, free competition has forced prices below the cost of production and is rapidly eliminating competition via the bankruptcy route. The natural gas and petroleum industries are especially interested in the correction of these laws. Fifteen billions of dollars are at stake. Is your association doing its part on this subject?

Finally, be of good cheer. As surely as good times followed previous panics, so better days will follow the present one.

*Before annual convention Natural Gas Department, American Gas Association, Tulsa, May 9-11.

of appliances by the public utilities is not only of vital importance to the public utilities themselves, not only of benefit to their consumers, but actually a benefit to competitive merchants, we are now confronted with the question as to what is the best policy to be adopted with respect to the future. Shall we continue to merchandise along the lines that we have followed in the past, and content ourselves with meeting the opposition in the halls of the legislature or in the courts, or shall we attempt to cooperate with the local merchants, and arrive at an amicable solution of the problem?

It seems unwise to leave the matter to legislative determination. From the information that has reached me I am of the opinion that the State of Kansas is rapidly becoming dissatisfied with the law which it recently passed banning merchandising by utilities. The Kansas Press Association, at its conference in Wichita, Kans., on January 16, passed the following resolution:

"On the grounds of depriving cities and towns of adequate service and contributing to empty storerooms and unemployment, we urge the repeal of the law known as the 'Utility Merchandising Act,' believing its operation has been a detriment rather than a benefit to communities."

Smoke Screen Illusion

In the January, 1932, issue of the Railway Labor Magazine, the following comment is made upon the antiutility merchandising laws in Kansas and Oklahoma:

"If ever a smoke screen illusion prompted legislators, such a foretold illusion guided the lawmakers of Kansas and Oklahoma when they wrote their merchandising measures. The absurd law has thrown some 2,200 salesmen and workers out of jobs in Kansas alone. The freight paid by one Kansas firm has fallen off exactly 90 per cent. Immediately after the measure became law in Kansas, the producers and jobbers of cheap electrical appliances increased their mail order advertising over 100 per cent. The franchise holding utility concerns, permanently located, were obliged to furnish A No. 1 appliances—they, as a matter of economy, must sell only the best merchandise obtainable; the mail order concern is through with the buyer the moment they cash the buyer's check; their sale of cheap junk has more than doubled in Kansas. When cheap appliances break down the utility concern loses on the sale of electric power, labor loses in producing the power. We believe that facts and figures show these merchandising bills are total failures from the standpoint of applied democracy and equity."

No Solution in Legislation

The apparent failure of the laws passed in Kansas and Oklahoma indicates that the problem can not be successfully solved by legislation. Good business judgment indicates that the present friction existing between the independent dealer and the utility should be removed by a closer cooperation and mutual understanding of the problems of each other. The situation merits the thoughtful and immediate attention of all public utility executives. It has been said by some utility executives that each territory should work out its own problem, and that no effort should be made either by the state or national organization to formulate any given plan for the restoration of better relations between the dealers and the utilities. I disagree with any such contention. I believe the best minds in the industry should meet for the purpose of formulating some general sound fundamental policy which might be applied everywhere throughout the country, subject, of course, to minor deviation in order to meet special conditions. The utilities of this country should be willing to merchandise upon fair, ethical lines, having due regard for the rights of their competitors. A sound merchandising policy need have no geographical limitation around it. If the leaders in our industry unite in encouraging all of the members of our industry to agree upon a sound and fair merchandising policy, then we may expect within a short time to have achieved a result that is sound and fair to all, and without the necessity of legislative interference.

In conclusion of my remarks, may I offer for your consideration a brief outline of how we are attempting to solve the problem in southern California. We do not claim that our plan or method of procedure is perfect. We have, however, in a short space of time, accomplished a great amount of good, and have established most satisfactory relations with our dealers.

Immediately following the adjournment of the last session of the California Legislature, where an antiutility merchandising bill was overwhelmingly defeated in committee, a prominent banker in the city of Los Angeles called together at a luncheon the leading merchants of the city and the heads of the various utilities. The purpose of the meeting was to pave the way for a subsequent conference wherein our differences could be adjusted and a fair and sound basis for future cooperation determined. The independent merchants frankly stated their objections to certain merchandising practices upon the part of the utilities, and pointed out wherein they thought such practices were unfair to the independent dealers. The utilities in turn explained why it was fundamentally imperative that they engage in the merchandising business, but the utilities assured the merchants that they were willing to co-operate with them in the establishment of a code of business ethics acceptable to both sides that should act as a guide for future merchandising in this territory. A committee representing both groups was appointed and many meetings were held, and in a short time a working agreement was arrived at mutually satisfactory to all elements, and is now in effect, and harmony prevails.

Certain trade practices were banned, and the following fundamental merchandising principles were agreed upon:

(a) An agreed per cent of mark-up over the delivered cost of appliances to the warehouse.

(b) An allowance of 10 per cent of the net retail selling price of the new appliance as a trade-in for the old appliance.

(c) Where appliances are sold on installments, interest allowed on deferred payments at the rate of one-half of 1 per cent per month on the net balance due under the contract at the time it was signed.

(d) No premiums allowed.

(e) No special clearing sales permitted until after two weeks' notice to all other interested parties.

Co-operative Campaigns

A subcommittee of five was appointed, consisting of one representative from the utilities, two from the manufacturers, and two from dealers, for the purpose of agreeing upon co-operative advertising and selling campaigns. All proposed billboard, newspaper and circular advertising of the gas companies is first submitted to this committee for their reaction and approval, and the final form of advertising employed by the gas companies goes out with the full approval of this committee. The advertising employed is impersonal and does not seek to direct the trade of the customer to any particular dealer. All advertising carries the slogan: "See your gas appliance dealer." Dealers are furnished with window display cards identical with the billboard advertisements. During the year, three separate campaigns are planned and carried on for water heaters and for ranges. The gas utilities and dealers agree upon the time and manner of carrying on these campaigns, and their efforts are co-ordinated so as to make one unified appeal at the same time upon an agreed plan of merchandising.

The Southern Counties Gas Co. of California, of its own initiative, has gone a little further with its dealer co-operation in the smaller communities served by it in the territory surrounding the city of Los Angeles. Whenever an employe of the company examines the appliances of a consumer and finds that there is need for new or better appliances, a memorandum of the consumer's name and address is made and filed in the company's office. The company in each city makes up a list of all gas appliance dealers in the city who are willing to display gas appliances and who carry appliances bearing the seal of approval of the American Gas Association. A list of the prospective customers for appliances secured by the company in the manner aforesaid is furnished to all of these dealers in approved appliances, and the company further offers to address and mail the literature of any local dealer to these prospective customers provided the local dealer will pay one-half of the cost of the postage.

Stirring Up the Dealer

The company throughout its territory has made the practice of calling upon all local dealers, submitting to them its plan of dealer co-operation, and urging the dealer to be more aggressive and modern in his methods of displaying and selling gas appliances. One or two examples of our experience in stimulating this dealer co-operation will be of interest to you.

In Santa Ana the gas company representative recently called upon the head of the largest furniture store in the city. He discovered that the gas appliances handled by this firm were kept in the basement, and no effort made to display the merchandise. The firm was urged to move its gas appliances onto the first floor, and to install a window display, which it did, utilizing a 60-foot display window for the purpose of exhibiting gas appliances. In two weeks this firm sold 67 gas ranges—more than its total sales of gas ranges for the entire previous year.

In Santa Monica the representative of the gas company called upon the largest local furniture dealer, for the purpose of explaining our dealer co-operation plan. He discovered that the sole stock of gas appliances consisted of four old ranges. The management was induced to buy some new modern ranges and to start displaying them. At a recent meeting of local merchants in Santa Monica, the manager of this furniture company stated that during the past year all of the departments of his store showed a decline in business over the previous year, except the gas appliance department, and that department now showed an increase. When this dealer was first approached by the representative of the gas company, he said that he took no interest in the sale of gas ranges, as he felt that he could not hope to compete with the gas company in the sale of ranges. He is now most enthusiastic, and runs a 2-column, 8-inch advertisement of gas appliances in the local papers each week.

Two Things Discovered

In our effort to effect dealer co-operation and to remove any feeling of unfriendliness upon the part of dealers, we discovered two things of great value:

First. That many salesmen and department heads in stores have been supplying the owners of the business with incorrect information with respect to the merchandising activities of the gas companies, in order to make an alibi for their own failure to secure results.

Second. That it is absolutely essential for the utility to contact the head of the merchandising firm, and explain to him personally just how and why we merchandise, and what we have to offer in the way of dealer co-operation. Our cause is so just—our policy so fair and so helpful, that it invariably appeals to the sound business man, once we gain his ear. This direct contact with the head of the merchandising concern we found to be the key to the establishment of successful dealer co-operation.

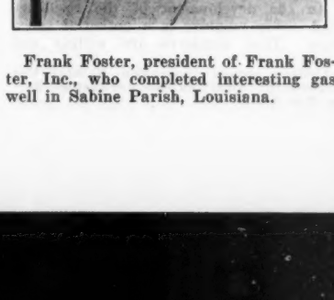
In my opinion the major reason for the friction which has arisen between us and the independent merchant is because we have engaged for years in a competitive business actuated by different motives, and without any attempt to understand and appreciate the viewpoint and problem of the other fellow. Our business problems are so different from those of the independent merchant that it is impossible for us to act in harmony unless we meet with an honest desire to co-operate and exchange viewpoints, give and take, and arrive at a common, fair basis of co-ordinated action which is profitable to both and unfair to neither.

The gas utilities of this country must have the good will of the public if they are to succeed and survive. The independent merchant is not merely our business competitor in the selling of appliances; he is, as a rule a valued customer of ours. We have every reason to desire his good will and co-operation; and up to the point of being required to forego business policies that are fundamental and necessary not only for our welfare, but for the welfare of the public, we should be willing to go more than half way in meeting with our fellow merchant and acquiescing in the highest standards of merchandising ethics.

DEPRESSION ENDS

D. E. Stevens, owner of the 720-acre tract on which is located the discovery well drilled by Frank Foster, Inc., in Sabine Parish, Louisiana. Operators are much interested in the well.

GETS GOOD GASSER



Frank Foster, president of Frank Foster, Inc., who completed interesting gas well in Sabine Parish, Louisiana.

Greatest Problem Now Is Selling Gas

Notwithstanding Present Discouraging Conditions New Business Can Be Gained by Intensive Efforts

By E. A. Olsen
President Oklahoma Natural Gas Corp.*

This convention is being held at a time when we are giving more thought to the problems of our business than ever before.

Certainly most natural gas companies have never been so hard pressed as during the past year. The completion of numerous major construction projects occurred after the period of depression set in. Revenues calculated to justify these tremendous capital expenditures failed to materialize. But expenses of operation, fixed charges and taxes cannot be avoided.

Unless the estimates of earnings upon which these important additions to the natural gas facilities of the country were financed prove to be ridiculously low, the business is still there—though much of it is dormant at the moment.

Examples of overexpansion of gas service facilties are rare. On the contrary gas lines usually are replaced by larger ones before their economic lives are spent and capacities invariably are augmented by the installation of additional lines.

It is fair to assume, therefore, that although the volumes of gas transported through these new facilities have grown, if they have grown at all, at a disappointingly slow rate, we are certain to see them taxed to their limits in the not too distant future. Public utilities pass through substantially the same cycles of activity as do other industries. At one time we are worried with the problem of what to do with all our excess equipment only to find ourselves a little later suffering from that nervous sensation which the gas man always experiences when the deliveries at peak exceed what was thought to be the maximum capacity of the line.

In the gas business we are never without problems. Right now our greatest problem is to sell gas. This may seem an almost impossible task because of general business conditions and cheapness of competitive fuels, but it is surprising how much new business can be gained through intensive effort.

Results Are Illuminating

Results recently attained by Oklahoma Natural are illuminating on the subject. Industrial loads and commercial installations secured through diligent application during the period July 1, 1931, to April 30, 1932, produced additional annual revenues of more than $500,000. In addition prospects having potential loads which will provide annual revenues in excess of $700,000 were recorded. Like practically all other gas companies, Oklahoma Natural has lost, temporarily, at least, many of its larger customers by reason of the virtual shutdown of industry. Therefore, the great value of these new loads to the company at this time will readily be appreciated.

The natural gas companies which serve the domestic or residential class of customer have an undoubted field for increasing sales. Never in the history of gas service have the opportunities for developing this load been as promising as at present. The use of gas facilities in the home for house heating, water heating, incineration, etc., is trivial when the total number of the residences connected to distribution systems is considered.

We have to thank the manufacturers and the American Gas Association for the remarkable improvements wrought in household appliances in recent years. Not only has this type of equipment been made exceedingly attractive, but the control and automatic features have made them popular with the housewife.

In the development of the residence load, every employe is a potential salesman. That employes are willing and anxious to aid in such a movement is shown by the excellent results recorded at the end of a 30-day campaign in February on our own property here in Oklahoma. Four hundred and twenty-four pieces of equipment were sold through their efforts. Increased revenues from the sale of gas which these appliances will consume is estimated to be $185,000 annually. In addition, prospects representing annual revenues of $186,000 were unearthed and many of these have since become purchasers.

These results are particularly gratifying because the sales were closed by local dealers—hardware, furniture and department stores—the gas company having discontinued its merchandising activities in conformity with a law passed by the last legislature.

Law Against Merchandising

This brings us to a point which may be of interest to many of the companies. The law prohibiting public utilities in Oklahoma from engaging in the business of selling gas or electric appliances has been in effect since last July. While an extended time limit was provided for the disposal of merchandise on hand, we chose to discontinue the activity without delay. A plan of co-operation with local dealers was inaugurated, by which we were to turn over to them prospects for appliance sales and to extend without cost engineering and sales assistance when needed. We have continued this arrangement to date and feel that most cordial relations have been established between the company and the dealers. Valuable though these relations are, however, sales are not what they used to be.

Many dealers are beginning to realize that the extensive advertising and sales promotion efforts of the utilities were conducive to greater dealer sales. People may be convinced of the desirability of acquiring gas appliances described in newspaper advertising prepared by a capable ad writer, or by a gas company solicitor, but frequently they prefer to purchase them from a local dealer. There must be a leader in this, as in any other business activity, and the utility is undoubtedly best situated to assume that office.

In Kansas where a similar law was passed last year, there is much agitation for a return of the old order of things. It might be well for those companies operating in states where an antiutility merchandising bill is being fostered to work out co-operative plans with dealers so that such proposed legislation will be shown to be as objectionable to them as to the public and the utilities.

When a bill of this character was introduced in the California legislature a year ago, the dealers sent representatives to object to its passage and the bill failed. The regard which those dealers had for the utilities would seem to indicate the wisdom of emulating the California utility practice of developing co-operative relations with the dealers.

Another point which seems to me worth stressing at this time is the necessity for creating a better understanding on the part of the public at large, of the natural gas industry. In this part of the country at least, many people are prone to consider natural gas as a waste product of oil and for that reason should be delivered at rates little higher than those paid for it at the well. It is difficult to explain the ramifications which enter into the transportation from the well to the burner tip. A genuine appreciation of the capital represented in collection, transmission, compression, distribution, and service facilities is readily gained by the average citizen when the trouble is taken to explain it to him. He also is impressed with the tremendous operating and maintenance programs followed constantly when these are described to him. He never fails to express surprise when he learns how much of his monthly gas bill is paid out by the company in taxes. It is a mistake for us to assume that the public will come by accurate knowledge of our problems without help. We must adopt ways and means of interesting the people sufficiently to warrant their desiring knowledge on the subject. If we make no effort in that direction we may be sure there will be those who will advise them wrongly.

The necessity for good public relations—confidence of the people, favorable sentiment, or whatever title or phrase we may choose to describe that intangible quality—is generally appreciated, but frequently misunderstood. A gas company may render perfect service at low rates and still fail to achieve the public esteem needed to earn the desired degree of success. The people become accustomed to service which is never interrupted or suffered to decline in quality, and the rates that are charged are to them only relative as between the months and years.

Influence of Negative Personality

What then is it that influences adversely the standing of a utility whose service is unquestioned and rates satisfactory? It is the negative personality of the utility. Personality is defined by Webster as "Quality or state of being personal, or of being a person and not a thing or abstraction; that which makes a being a person; personal existence or identity." A "pleasing personality" is a term frequently employed to describe persons we like.

Gas utilities most assuredly do have personalities which are either good, bad or indifferent. The reputation which a utility has in this regard is gained in exactly the same manner as in the case of the individual. If the men and women who make up the organization of a utility are courteous, and posses a high ideal of service, the public will respond handsomely.

A utility to be fully successful must have a pleasing personality. If its executives have pleasing personalities, its employe organization will radiate a pleasing influence and the utility will find it has good public relations or good will, the most important element in the prosperity of a gas utility.

Finally, I should like to touch upon the subject of the gas company employe and his status. The body of men who make up the industry's personnel are high type, responsible people who possess real initiative in no small degree. The character of their duties is such as to demand unusual qualities. If the national gas industry is to expand as we are all hopeful it will, we must encourage them in their efforts and afford them opportunities to improve themselves. We should consider them company representatives rather than merely workers.

*Before annual convention Natural Gas Department, American Gas Association, Tulsa, May 9-11.

SUMMARY OF STATEMENTS RELATING TO BUSINESS OF VARIOUS EASTERN PIPE LINES FOR MONTH ENDING MARCH 31, 1932

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat Transit	643,440.19	134,250.99	1,038,980.50	669,087.25	576,011.52
S W Pa. P. L.	347,019.10	62,615.59	851,603.54	420,480.43	550,672.55
Eureka P. L.	1,327,281.45	258,032.38	335,142.25	244,754.32	380,702.78
Buckeye P. L. (Macksburg).	336,057.20	235,934.33	142,421.20	224,620.23	105,940.26
Buckeye P. L. (Lima, etc.)	3,001,209.10	79,282.02	2,221,936.79	1,382,090.03	869,481.46
Buckeye P. L. (Cleveland)	27,116.36	12,404.18	181,969.04	1,959.71	212,370.57
Indiana P. L.	$10,968.41	2,736.59	1,106,597.71	902,370.22	207,708.03
Southern P. L.	239,989.94	.....	115,765.94	52,865.15	61,729.21
Bradford Transit	361,700.48	376,064.32	.....	419,093.52	.....
N. Y. Transit	202,641.13	44,698.44	158,906.28	190,097.74	.....
Northern P. L.	234,026.98	.....	392,627.67	132,597.12	230,656.63
Tide Water Pipe	891,373.80	23,533.01	.....	437,374.91	.....
Tuscarora Dev.	9,772.59	.....	.....	359,490.05	.....
Total March 31	7,932,495.75	1,229,541.85	6,545,950.92	5,436,780.68	3,395,473.21
Total February 29	8,084,732.71	1,155,723.87	5,956,488.95	4,602,217.34	3,040,725.23
Difference	152,236.93	73,817.98	589,461.97	834,563.34	354,747.98

THE OIL MAN'S CALENDAR

MAY

9-13—Atlantic City, N. J., National Fire Protection Association.
13-14—Wellsboro, Pa., A.P.I. Production Division, Eastern district, Penn-Wells Hotel.
15-17—Houston, Tex., National Oil Scouts Association of America.
16-20—San Francisco, Calif., twentieth annual meeting, U. S. Chamber of Commerce (special group session, oil industry).
17-19—Tulsa, Natural Gasoline Association of America, Mayo Hotel.

JUNE

1-3—Tulsa, mid-year divisional meetings, American Petroleum Institute, Mayo Hotel.
6-9—Detroit, Mich., National Association of Purchasing Agents.
20-24—Atlantic City, N. J., American Society for Testing Materials.

JUNE-JULY

Economic and Historical Exhibition (oil industry section), Rouen, France.

JULY-AUGUST

July 16 to August 28—Atlantic City, N. J., third American Fair, Atlantic City Auditorium.

AUGUST

23-26—Spokane, Wash., Pacific Coast Gas Association, Hotel Davenport.

SEPTEMBER

14-16—Atlantic City, N. J., annual meeting, National Petroleum Association.
15-17—Atlantic City, N. J., American Trade Association Executives.
22-23—Chicago, National Association of Motor Bus Operators.

OCTOBER

3-7—Buffalo, N. Y., National Metal Exposition and National Metal Congress, and American Society for Steel Treating.
10-14—Atlantic City, N. J., annual convention, American Gas Association.

NOVEMBER

10-12—Atlanta, Ga., Southeastern Economic Conference.
15-17—Houston, Tex., thirteenth annual meeting, American Petroleum Institute.

Takings in East Texas Field Curtailed

Sentiment Favors Reduction to 55 Bbls. per Well. Now 5,400 Wells in Field, With 151 New Completions in Week. Activity Unabated

By L. E. Bredberg

DALLAS, Tex., May 9.—The pipe line situation in East Texas has become more acute during the past week, with 151 new wells completed, many of which are still unconnected, swelling the list of unconnected wells which last week totaled around 60. The purchasing companies have decided on a further voluntary curtailment of their own production, and takings from outside wells in order to cope with the situation, and connect with wells which have been shut down waiting for such connections. Some of these wells, if not many, are offsets to wells which have pipe line connections, and which are producing their 61 bbls. per day allowable, thereby draining the adjacent properties near the shut in wells, causing considerable comment in the district.

Three weeks ago two purchasing companies in the field voluntarily curtailed their own wells to 62 bbls. per well per day, 5 bbls. below the Railroad Commission's allowable, and also curtailed takings from wells to which they were connected, stating that they had too much oil, and could not take the full allowable. Other companies followed this move. Later the commission cut the allowable to 61 bbls. per well, which is the present amount, but with the amount of drilling activities remaining at a maximum during the past three weeks, 470 wells have been completed within that time, raising the number of completed wells to over 5,400 in the field, the purchasing companies stated that they could not take any more connections, several of them trying to withdraw, if possible, from some of the connected wells.

Cutting Allowable

Meanwhile operators have decided another cut should be made in the per well allowable to 55 bbls. per day in order to keep production down around 325,000 bbls. per day in the field and make it possible for the purchasing companies to connect with the unconnected wells. So far, added curtailments have failed to affect the operators and the companies. They have continued to drill at breakneck speed, and will undoubtedly continue to do so until the field is thoroughly drilled, pressures dissipated, and wells producing but a negligible daily allowable. Increased gasoline consumption seems to have no bearing on the East Texas situation whatsoever.

For the week ending May 5 there was a daily average of 17,520 bbls. taken from storage in the district. During the past seven weeks oil has been run to storage in the district but once, although wells which have been unconnected during the past three weeks have been running their daily allowable to lease storage.

While production rose in the field from 332,894 bbls. the previous week to 342,505 bbls. the past week, distribution also showed a gain, 358,158 bbls. moving by pipe line, tank cars and to local refineries every day, a gain of nearly 5,000 bbls. per day over the previous period. There remains over 7,000,000 bbls. empty storage in the district, with only slightly over 2,000,000 in steel storage, excepting the distress oil which is in lease tanks.

It is not known just how much oil has been overproduced and marketed by "bypassing" oil in the district, but Fred Upchurch of the attorney general's department has forwarded petitions to the federal court in Tyler in the nature of cross actions to procure injunctions against further alleged excessive production of oil by five companies in the district. It is alleged that these five produced 153,000 bbls. over their allowable in April. Penalties and injunctions have also been sought against five other concerns charging that they have produced 159,000 bbls. in excess of their allowable. No theft is alleged in these cross actions.

Northeastern Limits

The northeastern limits of the East Texas Field has apparently been defined by Eslick's No. 1 J. H. Thomas in the H. F. Rogers Survey, Gregg County, which has been unsuccessful in making a producer. Total depth of the test is now 3,615 feet, encountering an increase in water when deepened 2 feet this week. It has swabbed considerable oil, and may make a small pumper. Elevation is 270 feet, making bottom of the hole minus 3,345 feet. The first sand was logged at 3,590 feet, or minus 3,320 feet.

Harrison Abandonments

Two wildcat tests were abandoned in Harrison County this week, both being near the Gregg County line and interesting tests. Gochee and others' No. 1 Davidson in the R. Starr Survey had a showing of dead oil, but proved a failure at 3,737 feet. J. G. Peterbaugh and others' No. 1 Collum in the Pentecost Survey, in the northwest corner of the county, topped Georgetown lime at 3,614 feet drilling 1 foot into it before shutting down for abandonment. Elevation is 251 feet.

Wemack Oil Co.'s No. 1 J. G. Arnold in the William Christian Survey, southern Rusk County, and a mile extension gasser, was completed this week for an initial gauge of 35,000,000 feet, the best gas well to be completed in this area and the field. Total depth is 3,302 feet.

DAILY AVERAGE CRUDE OIL SHIPMENTS FROM EAST TEXAS

Week Ending May 2

Company, size, location—	Amount
Arkansas P. L., 8-in., Shreveport ..	3,508
Atlantic P. L., 10-in., Atreco	14,175
Atlas P. L., 8-in., Shreveport	6,021
Gulf P. L., 2-8-in., Oklahoma	20,634
Gulf P. L., 2-8-in., Port Arthur ...	14,438
Humble P. L., 2-10-in., Shreveport..	30,212
Humble P. L., 2-8-in., Todd	36,597
Liberty Pipe Line Co., 8-in., Rusk..	1,790
Magnolia P. L., 10-in., Center	10,186
Magnolia P. L., 12-in., Corsicana ..	32,028
Shell P. L., 10-in., Houston	24,860
Sinclair Prairie P. L., 12-in., Teague	20,555
Sun-Yount Lee P. L., 10-in., Sun City	33,760
Texas P. L., 10-in., Douglass	23,781
Texas Empire P. L., 12-in., P. Arthur	58,662
Tidal Ref., 6-in., Carthage	3,179
Total	339,387
Shipments to Refineries	
Arrow Ref., Overton	S.D.
Beacon Ref., Henderson	841
Boone Ref., Arp	760
Central Ref., Friars Switch	S.D.
Constantin Ref., Overton	S.D.
Diamond Ref., Overton	546
East Texas Ref., Longview	7,000
East Texas Ref., Friars Switch	2,737
Gladetex Ref., Gladewater	540
Gladewater Ref., Gladewater	215
Guillory Ref., Kilgore	125
Kilgore Ref., Kilgore	650
Overton Ref., Overton	878
Petroleum Refractionating, Longview	S.D.
Sinclair Ref., Longview	1,056
Kent-Middleton Ref. (Slack Ref.), Camp Switch	S.D.
Southern Oil Ref., Reed Switch	750
Taylor Ref., Reed Switch	714
V. O. E. Ref., Gladewater	515
Total	17,317
Shipments by Tank Car	
East Texas Ref. from Longview ...	145
Cherokee Chief from Gladewater ..	1,330
Total	1,475
Total daily average distribution ...	358,179
Total daily average production	342,535
Daily average from storage	15,644

Sales Reported

Amerada Petroleum Corp. sold its 258-acre Henry lease in the De Los Santos Coy Survey in northeastern Cherokee County to the McCulloch Oil Co. for a reported consideration of $1,000 per acre, to be paid out of one-fourth of seven-eighths of the oil. This is one of the largest deals consummated in the district for some time, although it does not involve as much consideration as some smaller sales made recently.

Cherokee County

Mustang Oil Co.'s No. 1 Decker and Whiteman in the F. W. Fulgam Survey, 3 miles south of Maydelle in Cherokee County, the most interesting test in the county at present, is drilling at 3,150 feet. It will be three or four days before possibilities of this test can be estimated.

Smith County

Droppleman and Bunte's No. 1 Atkinson in the Calloway Dean Survey, southeastern Smith County, interesting wildcat which has companies and operators watching it, is fishing for a bailer at 3,750 feet. Elevation is 377 feet.

Operators who obtained permission to open and test their wells in the field have not been able to find pipe line outlets for the oil, consequently have not made any tests to date. Tests were to be made to check the potentials and pressures in the wells, and Railroad Commission men were to supervise the tests when made.

Marion County

Purcell and others are moving rig on the M. L. Coker tract in the Miles Reed Survey, approximately 4½ miles west of Jefferson in Marion County, and will test the 1,800-foot horizon where Trammell and others had a showing of oil in their No. 1 Hussey test, in this area.

H. A. Harrell of Dallas is also trying to assemble a block in this same area, guaranteeing a test if he obtains the block.

Roeser and Pendleton, of Fort Worth, have made location for their No. 1 M. A. Dovey wildcat in the P. G. Adams Survey, Anderson County, which will be an interesting test.

Copies of lease forms prepared by the attorney general of Texas have been requested by some of the major oil companies operating in the State, giving reason to believe these companies may bid on one or more of the eight tracts, which have been set aside for leasing by the State Board of Mineral Development, on the Sabine River in Gregg County. The bids will be in the form of bonuses plus the customary one-eighth royalty, which accrues to the State. The part of the river subdivided, flows through productive area in the county.

Col. L. S. Davidson has issued orders discontinuing the practice of detailing troops to witness completion of new wells in the district, because of shortage of men. However, the military authorities still require each completion to be reported to headquarters.

COMPLETIONS IN EAST TEXAS

North Gregg County

Arkansas Fuel Oil Co.'s No. 2 Tennery, top sand 3,579 feet, initial production 35 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,588 feet. Atlantic Oil & Production Co.'s No. 5-B Burnside, top sand 3,484 feet, initial production 16 bbls. per hour through tapered tubing, total depth 3,530 feet. Atlantic and Wadley's No. 5 Turner estate, top sand 3,503 feet, initial production 22 bbls. per hour through tapered tubing, total depth 3,575 feet. Atlantic Oil & Production Co.'s No. 1 T. B. Harris, top sand 3,545 feet, initial production 16 bbls. per hour through tapered tubing, total depth 3,583 feet; No. 9 Moyer, top sand 3,542 feet, initial production 22 bbls. per hour through tapered tubing, total depth 3,581 feet. Atlantic and Sun Oil Co.'s No. 3 William Anderson, top sand 3,506 feet, initial production 22 bbls. per hour through tapered tubing, total depth 3,560 feet.

Cal-Pet Corp.'s No. 5 Clements, top sand 3,760 feet, initial production 20 bbls. in 15 minutes through three-fourths inch tubing choke, total depth 3,778 feet. Clark and Cowden's No. 3 J. M. Christian, top sand 3,622 feet, initial production 40 bbls. in 15 minutes through open tubing, total depth 3,674 feet. Columbia Oil & Gas Co.'s No. 2 C. J. Dollahite, top sand 3,662 feet, initial production 62 bbls. per day through various chokes, total depth 3,700 feet. Corley and Blair's No. 3 W. E. Bumpass, top sand 3,543 feet, initial production 61 bbls. in 25 minutes through 1-inch tubing choke, total depth 3,565 feet. Cox and Hamon's No. 10 L. A. Rodden, top sand 3,545 feet, initial production 50 bbls. in 15 minutes through open tubing, total depth 3,570 feet. Colores Oil Corp.'s No. 2 Mattox, top sand 3,599 feet, initial production 67 bbls. per day through various chokes, total depth 3,620 feet. Devonian Oil Co.'s No. 7 L. C. Ingram, top sand 3,528 feet, initial production 130 bbls. per hour through three-fourths inch tubing choke, total depth 3,562 feet.

East Texas Finance Co.'s No. 1 Finley and Thomas, top sand 3,488 feet, initial production 62 bbls. per day through open tubing, total depth 3,533 feet. Empire Gas & Fuel Oil Co.'s No. 5 A. Green, top sand 3,584 feet, initial production 40 bbls. in 15 minutes through open tubing, total depth 3,665 feet. F. H. E. Oil Co.'s No. 2 J. M. Christian, top sand 3,618 feet, initial production 26 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,644 feet. Gulf Production Co.'s No. 7 S. C. Fishburn, top sand 3,475 feet, initial production 180 bbls. per hour through three-fourths inch tubing choke, total depth 3,606 feet; No. 7 Lacy Snider, top sand 3,472 feet, initial production 90 bbls. per hour through three-fourths inch tubing choke, total depth 3,500 feet.

Humble Oil & Refining Co.'s No. 7 T. M. Armstrong, top sand 3,555 feet, initial production 119 bbls. per hour through three-fourths inch tubing choke, total depth 3,598 feet; No. 8 T. B. Harris, top sand 3,524 feet, initial production 15 bbls. in 15 minutes through three-fourths inch tubing choke, total depth 3,586 feet; No. 5 Killingsworth, top sand 3,544 feet, initial production 24 bbls. in 15 minutes through three-fourths inch tubing choke, total depth 3,618 feet; No. 3 J. H. Sheppard, top sand 3,590 feet, initial production 92 bbls. per hour through three-fourths inch tubing choke, total depth 3,631 feet. Kewanee Oil & Gas Co.'s No. 9 T.&P.R.R., top sand 3,568 feet, initial production 62 bbls. per day through various chokes, total depth 3,612 feet.

Magnolia Petroleum Co.'s No. 8 C. E. Davis, top sand 3,505 feet, initial production 232 bbls. per hour through open tubing, total depth 3,530 feet; No. 3 F. M. Fonville, top sand 3,585 feet, initial production 252 bbls. per hour through open tubing, total depth 3,569 feet; No. 4 H. B. Zeigler, top sand 3,436 feet, initial production 208 bbls. per hour through open tubing, total depth 3,453 feet; No. 5 H. B. Zeigler, top sand 3,440 feet, initial production 168 bbls. per hour through open tubing, total depth 3,458 feet. Midas Oil Co.'s No. 2 A. V. Bacle, top sand 3,597 feet, initial production 62 bbls. per day through various chokes, total depth 3,625 feet. W. A. McCommas' No. 1 Finley and Thomas, top sand 3,505 feet, initial production 55 bbls. in 15 minutes through open tubing, total depth 3,547 feet. Navarro Oil Co.'s No. 5 E. L. Walker, top sand 3,592 feet, initial production 47 bbls. in 30 minutes through seven-eighths inch tubing choke, total depth 3,605 feet.

Selby Oil & Gas Co.'s No. 2-C Snavely heirs, top sand 3,565 feet, initial produc-

tion 60 bbls. in 35 minutes through 1-inch tubing choke, total depth 3,589 feet. Shano Oil Co.'s No. 3 J. T. Hopkins, top sand 3,505 feet, initial production 30 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,583 feet. Shell Petroleum Corp.'s No. 9 G. W. Richey, top sand 3,547 feet, initial production 15 bbls. in 15 minutes through tapered tubing, total depth 3,593 feet. Simms and Buttram's No. 1 W. R. Nicholson, sand 3,657 feet, initial production no gauge, total depth 3,664 feet. Simms and Stanolind Oil & Gas Co.'s No. 7-B Flewellen, top sand 3,677 feet, initial production 62 bbls. per day through various chokes, total depth 3,687 feet; No. 4 A. J. Tuttle, top sand 3,560 feet, initial production 30 bbls. in 15 minutes through open tubing, total depth 3,576 feet. Sinclair Prairie Oil Co.'s No. 2 M. Lawson, top sand 3,508 feet, initial production 67 bbls. in 15 minutes through open tubing, total depth 3,655 feet. Stanolind Oil & Gas Co.'s No. 5 Cox and Hamon, top sand 3,512 feet, initial production 58 bbls. in 15 minutes through open tubing, total depth 3,553 feet. Stanolind and Simms Oil Co.'s No. 5 Fonville, top sand 3,535 feet, initial production 34 bbls. in 15 minutes through 1½-inch tubing choke, total depth 3,554 feet; No. 5-A J. J. Flewellen, top sand 3,655 feet, initial production 88 bbls. in 30 minutes through open tubing, total depth 3,671 feet.

Stroube and Stroube's No. 1 Anderson and others, top sand 3,501 feet, initial production 25 bbls. per hour through tapered tubing, total depth 3,541 feet. Sun Oil Co.'s No. 6 J. C. McKinley, top sand 3,655 feet, initial production 100 bbls. per hour through open tubing, total depth 3,655 feet; No. 3 E. C. Schoultz, top sand 3,574 feet, initial production 52 bbls. per hour through tapered tubing, total depth 3,621 feet; No. 2-B A. Tooke, top sand 3,498 feet, initial production 54 bbls. per hour through open tubing, total depth 3,528 feet. Sutton and Hawkins' No. 5 J. A. Whittaker, top sand 3,519 feet, initial production 67 bbls. per day through various chokes, total depth 3,542 feet. J. A. Woods and others' No. 1 J. H. Sheppard, top sand 3,570 feet, initial production 67 bbls. per hour through various chokes, total depth 3,590 feet.

Yount Lee Oil Co.'s No. 3 Smith, top sand 3,562 feet, initial production 79 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,582 feet; No. 3 J. M. Tuttle, top sand 3,565 feet, initial production 89 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,585 feet.

South Gregg County

Amerada Petroleum Corp.'s No. 2 C. Jenkins, top sand 3,551 feet, initial production 123 bbls. per hour through 1-inch tubing choke, total depth 3,573 feet. Arkansas Drilling Co.'s No. 1 Adkins heirs, top sand 3,705 feet, initial production 65 bbls. per hour through three-quarters-inch tubing choke, total depth 3,708 feet. Atlantic Oil Producing Co.'s No. 3 Clayton heirs, top sand 3,562 feet, initial production 22 bbls. per hour through tapered tubing, total depth 3,591 feet. Byrd-Frost, Inc.'s No. 8 Hughey, top sand 3,529 feet, initial production 61 bbls. per day through pinched tubing, total depth 3,570 feet. Sid Latham, receiver's No. 1 J. C. Clayborn, top sand 3,716 feet, initial production 40 bbls. in one-quarter hour through open tubing, total depth 3,720 feet. Cranfill & Reynolds' No. 3 J. M. Blackman, top sand 3,619 feet, initial production 125 bbls. per hour through three-quarters-inch tubing, total depth 3,624 feet.

Doss and Jones' No. 5 E. Hagler, top sand 3,603 feet, initial production 100 bbls. per hour through three-quarters-inch tubing choke, total depth 3,613 feet. Empire Gas & Fuel Oil Co.'s No. 2 A. A. Lockhart, top sand 3,646 feet, initial production 30 bbls. in one-quarter hour through 2-inch tubing choke on 2½-inch tubing, total depth 3,656 feet. Gulf Production Co.'s No. 4 C. Brown, top sand 3,516 feet, initial production 82 bbls. per hour through three-quarters-inch tubing choke, total depth 3,531 feet; No. 3 William Clayton, top sand 3,558 feet, initial production 90 bbls. per hour through three-quarters-inch tubing choke, total depth 3,583 feet; No. 2 C. Strong, top sand 3,692 feet, initial production 70 bbls. per hour through three-quarters-inch tubing choke, total depth 3,697 feet. T. D. Humphrey's No. 5 A. Spear, top sand 3,545 feet, initial production 60 bbls. in one-quarter hour through three-quarters-inch tubing choke, total depth 3,590 feet.

Invincible Oil Co.'s No. 2 Weiss, top sand 3,594 feet, initial production 60 bbls. in one-half hour through open tubing, total depth 3,614 feet. Liner, Inc.'s No. 2 Clayton, top sand 3,701 feet, initial production 75 bbls. in one-half hour through 1-inch tubing choke, total depth 3,705 feet. Massey and McMinn's No. 1 Elder, top sand 3,565 feet, initial production 8 bbls. in 10 minutes through 1½-inch tubing choke, total depth 3,620 feet. Magnolia Petroleum Co.'s No. 2 M. T. Cole, top sand 3,543 feet, initial production 140 bbls. per hour through 1-inch tubing choke, total depth 3,549 feet; No. 5 A. Hicks, top sand 3,725 feet, initial production 168 bbls. per hour through 1-inch tubing choke, total depth 3,727 feet. C. L. McHeney's No. 1 Mount Culver Church, top sand 3,707 feet, initial production 61 bbls. per day pinched, total depth 3,713 feet. Mission Oil Co.'s No. 2 Clayton, top sand 3,709 feet, initial production 61 bbls. per day pinched, total depth 3,712 feet.

F. W. O'Byrne's No. 2 Daniels, top sand 3,542 feet, initial production 50 bbls. through open tubing, total depth 3,577 feet.

R. Dudney and others' No. 1 Clayton, top sand 3,709 feet, initial production 30 bbls. in 40 minutes through 1-inch tubing choke, total depth 3,714 feet. Petroleum Finance Corp.'s No. 5 W. D. Lacy, top sand 3,578 feet, initial production 120 bbls. per hour through three-fourths-inch tubing choke, total depth 3,582 feet. Republic Production Co.'s No. 1 Clayton, top sand 3,552 feet, initial production 70 bbls. in one-half hour through 1¾-inch tubing choke, total depth 3,576 feet.

Shell Petroleum Corp.'s No. 1 H. T. Elder and Sons, top sand 3,534 feet, initial production 17½ bbls. in one-half hour through tapered tubing, total depth 3,560 feet; No. 3 B. F. Laird, top sand 3,560 feet, initial production 11 bbls. in one-fourth hour through tapered tubing, total depth 3,571 feet; No. 7 Willoughby, top sand 3,547 feet, initial production 3 bbls. in one-fourth hour through tapered tubing, total depth 3,585 feet. Sinclair Prairie Oil Co.'s No. 18 M. T. Cole, top sand 3,573 feet, initial production 42 bbls. per hour through open tubing, total depth 3,578 feet; No. 19 M. T. Cole, top sand 3,548 feet, initial production 30 bbls. in one-fourth hour through open tubing, total depth 3,558 feet; No. 9-B A. A. King, top sand 3,463 feet, initial production 60 bbls. in 13 minutes through open tubing, total depth 3,600 feet; No. 12-B A. A. King, top sand 3,454 feet, initial production 60 bbls. in one-fourth hour through open tubing, total depth 3,490 feet; No. 7 J. E. Luther, top sand 3,554 feet, initial production 60 bbls. in two hours through open tubing, total depth 3,594 feet. Solar Exploration Co.'s No. 1 J. S. and F. Elder, top sand 3,540 feet, initial production 12 bbls. per hour through tapered tubing, total depth 3,565 feet. Sun Oil Co.'s No. 1 M. Strong, top sand 3,584 feet, initial production 90 bbls. per hour through tubing, total depth 3,612 feet.

Tidal Oil Co.'s No. 5 T. Bell, top sand 3,706 feet, initial production 13 bbls. per hour through open tubing, total depth 3,709 feet; No. 6 King, top sand 3,542 feet, initial production 61 bbls. per day pinched through tubing, total depth 3,635 feet; No. 4 C. C. Strong, top sand 3,598 feet, initial production 144 bbls. per hour through open tubing, total depth 3,608 feet. Trapshooter Reilley's No. 4 Eddie Mitchell, top sand 3,572 feet, initial production 61 bbls. per day pinched through tubing, total depth 3,603 feet. Vierson and others' No. 2 Muckelroy, top sand 3,531 feet, initial production 110 bbls. per hour through 1-inch tubing choke on 2-inch tubing, total depth 3,561 feet.

North Rusk County

Roberts Oil Co.'s No. 1 Mount Comfort Church, top sand 3,658 feet, initial production in one-half hour through 1-inch tubing choke, total depth 3,676 feet. Derby Petroleum Co.'s No. 7-B C. O. Christian, top sand 3,742 feet, initial production 61 bbls. per day pinched, total depth 3,770 feet. Everett Drilling Co.'s No. 1 Mount Colvert School, top sand 3,653 feet, initial production 25 bbls. per hour through open tubing, total depth 3,750 feet. Gulf Production Co.'s No. 2-A Sexton, top sand 3,650 feet, initial production 55 bbls. per hour through three-fourths-inch tubing choke, total depth 3,697 feet.

Houston Oil Co.'s No. 2-B J. S. Bean, top sand 3,594 feet, initial production 62 bbls. per day pinched through tubing, total depth 3,650 feet. Humble Oil & Refining Co.'s No. 56 L. D. Crim, top sand 3,661 feet, initial production 40 bbls. in one-half hour through three-fourths-inch tubing choke, total depth 3,704 feet; No. 3-A J. T. Sexton, top sand 3,632 feet, initial production 20 bbls. par hour through three-fourths-inch tubing choke, total depth 3,721 feet. Karons Oil Co.'s No. 2 J. N. Peterson, top sand 3,636 feet, initial production 61 bbls. per day pinched through tubing, total depth 3,640 feet. Louisiana Oil & Refining Co.'s No. 3 H. Mayfield, top sand 3,623 feet, initial production 22 bbls. in one-fourth hour through 1-inch tubing choke, total depth 3,702 feet.

Olson Brothers' No. 4 Powers, top sand 3,744 feet, initial production 62 bbls. per day pinched through tubing, total depth 3,749 feet. L. G. Priest's No. 1 Oscar Robertson, top sand 3,630 feet, initial production 80 bbls. in 40 minutes through tubing, flowing by heads, total depth 3,681 feet. Stanolind Oil & Gas Co.'s No. 6 J. R. Bealle, top sand 3,674 feet, initial production 105 bbls. per hour through 2½-inch tubing choke, total depth 3,676 feet. Wheelock and Collins' No. 10 Dick Wells, top sand 3,640 feet, initial production 130 bbls. per hour through open tubing, total depth 3,663 feet.

South Rusk County

T. C. Adams' No. 1 Deason, top sand 3,661 feet, initial production 65 bbls. per hour through open tubing, total depth 3,700 feet. C. L. Archer's No. 1 H. G. Stewart, top sand 3,733 feet, initial production 30 bbls. in one-quarter hour through open tubing, total depth 3,737 feet. Bay Oil Corp.'s No. 3 W. O. Alford, top sand 3,715 feet, initial production 10 bbls. in five minutes through three-quarters-inch tubing choke, total depth 3,720 feet. East Texas Refining Co.'s No. 2 Currin Barksdale, top sand 3,691 feet, initial production 85 bbls. per hour through open tubing, total depth 3,710 feet.

R. W. Fair and others' No. 1 A. J. Deason, top sand 3,619 feet, initial production 20 bbls. in one-half hour through open tubing, total depth 3,710 feet. Gulf Production Co.'s No. 4 S. B. Stone, top sand 3,751 feet, initial production 72 bbls. per hour through three-quarters-inch tubing choke, total depth 3,752 feet.

Hinson Oil Co.'s No. 2 R. A. Motley, top sand 2,823 feet, initial production 50 bbls. in one-quarter hour through 2-inch tubing, total depth 3,827 feet. Howell's No. 1 Irion & Motely, top sand 3,801 feet, initial production 30 bbls. in 10 minutes through 1-inch tubing choke, total depth 3,802 feet. Humble Oil & Refining Co.'s No. 10 A. Blackwell, location abandoned; No. 2 S. A. Grover, top sand 3,661 feet, initial production 35 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,760 feet; No. 2 Leah Hill, top sand 3,758 feet, initial production 51 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,780 feet; No. 3 E. S. Thrash, top sand 3,800 feet, initial production 46 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,814 feet; No. 2-A H. White, top sand 3,650 feet, initial production 43 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,755 feet. H. L. Hunt's No. 1-E Joe Lee, top sand 3,717 feet, initial production 170 bbls. per hour through open 2-inch tubing, total depth 3,721 feet; No. 6 W. P. Moore, top sand 3,618 feet, initial production 65 bbls. in one-half hour through open 2-inch tubing, total depth 3,640 feet; No. 1-B R. J. Vinson, top sand 3,618 feet, initial production 12 bbls. in one-half hour through open tubing, total depth 3,710 feet.

C. L. McMahon's No. 3 Finney, top sand 3,632 feet, initial production 55 bbls. per hour through open tubing, total depth 3,688 feet. Magnolia Petroleum Co.'s No. 1 W. B. Key, top sand 3,786 feet, initial production 34 bbls. in one-quarter hour through three-quarters-inch tubing choke, total depth 3,786 feet. Martin and Cockburn's No. 3 J. E. Cansler, top sand 3,724 feet, initial production 50 bbls. in one-half hour through open 2-inch tubing choke, total depth 3,770 feet. Merry Brothers and Perini's No. 1-B J. M. Price, top sand 3,564 feet, initial production 65 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,605 feet. Mid-Kansas Oil & Gas Co.'s No. 2 H. L. Griffin, top sand 3,621 feet, initial production 50 bbls. per hour through 2½-inch tubing choke, total depth 3,726 feet. Mills-Bennett Corp.'s No. 4 Pinkston, top sand 3,609 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,659 feet.

M. W. Ranson's No. 1 E. B. Alford, top sand 3,595 feet, initial production 40 bbls. per hour through open tubing, total depth 3,656 feet. George B. Ray's No. 3 J. B. Wilson, top sand 3,643 feet, initial production 60 bbls. in 20 minutes through open 2-inch tubing, total depth 3,664 feet. W. M. Shaw, trustee's No. 1 E. B. Alford, top sand 3,565 feet, initial production 60 bbls. per hour through open 2½-inch tubing, total depth 3,645 feet.

Sinclair Prairie Oil Co.'s No. 26 Kinney, top sand 3,655 feet, initial production 30 bbls. in one-quarter hour through open tubing, total depth 3,668 feet; No. 9-B Mayfield, top sand 3,618 feet, initial production 45 bbls. in one-quarter hour through open tubing, total depth 3,629 feet. Smith and McDonald's No. 1 Deason, top sand 3,616 feet, initial production 35 bbls. per hour through 2-inch tubing choke, total depth 3,700 feet. Spansco Oil Co.'s No. 1 E. B. Alford, top sand 3,554 feet, initial production 35 bbls. per hour through open tubing, total depth 3,610 feet; No. 4 John Bell, top sand 3,785 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,825 feet. Stanolind Oil & Gas Co.'s No. 2 T. O. Mason, top sand 3,597 feet, initial production 20 bbls.

(Continued on Page 56)

EAST AND EAST CENTRAL TEXAS WILDCATS

Week Ending May 9

ANDERSON COUNTY

Company, well, farm name, section and block— Remarks:

Rosser and Pendleton's No. 1 M. A. Davy, 660 ft. from N line and center of E and W lines of tract and survey, P. G. Adams Sur. .....Derrick.

C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S½ of 129-ac. tract, M. Main Sur. .....T.D. 1,538 ft.

ANGELINA COUNTY

Helburt et al's No. 1 Long Bell Lumber Co., 160 ft. from S line and 200 ft. from E line of Sec. 9, H.&T.B. Sur. .....Location.

BOWIE COUNTY

Burnham-Robertson and Greer's No. 1 F. O. Weiss, 850 ft. from N line and 200 ft. from W line of B. H. Williams 50-ac. tract, Jessie Dean Sur. .....Drlg. 2,085 ft.

CHEROKEE COUNTY

Bridges and Candler's No. 1 Berryman, center of Berryman tract, H. Kimble Sur. .....S.D. 1,000 ft.

Harper and Perkinson's No. 1 J. T. Lowery, 650 ft. from N line, 150 ft. from W line of Blk. No. 5 on a 139.6-ac. tract, 4 miles W of Troupe, C. B. Jennings Sur. .....S.D. 3,366 ft.

(Continued on Page 58)

Howard-Glasscock Allowable Reduced

Test in Southwestern Crockett County. Seven Locations in Ranger District and 22 in Wichita Falls Area. Six in Panhandle

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., May 9.—The Railroad Commission today issued an order reducing the allowable production in the Howard-Glasscock Field to 22,000 bbls. per day, or 4,000 bbls. under the present allowable of 26,000 bbls. This new order becomes effective May 15, and follows as a result of the meeting held at Fort Worth on May 6, when operators voted to change the plan of proration to allot market outlet on a basis of well potential to the east and west sections of the field.

The proration change divides the field into zones, the old part of the field to be regulated on a potential basis and the newer part, or western part, on an acreage and potential basis. In the latter part of the field one-third of the production will be allotted on a basis of 40-acre producing units, and the remaining two-thirds of the area will be determined by flat potential output per well.

The boundary lines on the western side of the field have been moved 1 mile east to the east line of Block 32, Township 2s, T.&P. Survey, which is claimed to be a more accurate geological division of the east and west portions of the field. The east and west sides of the field were formerly divided by highway No. 9.

Some new drilling is expected to result from the changes adopted and ordered effective by the commission.

A continuous six-hour pumping gauge of all wells was recommended taken in order to calculate the daily yield. The last three-hour gauge will be used for computation purposes. Pumps will be regulated so as to make a maximum of 25 strokes per minute, and gauges are to be taken in presence of two witnesses.

A committee of five engineers and a general committee of operators were created at the Fort Worth meeting, and the former committee will take under consideration the question of special production allowances for wells making excessive quantities of water.

There are 520 pumpers in the field, producing from five horizons.

Toborg-Tippett Pool

East Oil Co.'s No. 4 Tippett in Section 40, Block 194, in the shallow Toborg-Tippett Pool, Pecos, is producing 65 bbls. per day through casing from a total depth of 1,330 feet, or almost three times as deep as the majority of the wells in the field, thereby opening up a new pay horizon for this small area, possibly leading to the deepening of all of the shallow producing wells, especially when production decreases in them. This deeper pay corresponds to the pay horizon found in the Yates Pool, a short distance to the south.

Crockett County

The Stanolind Oil & Gas Co. is rigging up on its No. 1 Massie test in the C SW SE Section 47, Block UV, G.S.&S.F. Survey, the test which will eventually be drilled in an effort to pick up the deep pay horizon found in the Big Lake Field, Reagan County, approximately 30 miles to the northwest. A machine has been moved to the present location and the company will try to make a commercial oil or gas producer from the shallow Powell Field horizon, found in Crockett County. Finding oil or gas will perpetuate leases for the company.

The Texas Company has spudded its No. 1 B. B. Ingham in Section 36½, Block 1, I.&G.N. Survey, southwestern Crockett County. This is to be a 4,500-foot test unless production is obtained at a lesser depth. The company has a block of over 10,000 acres around the test.

Andrews County

Fuhrman Petroleum Co.'s No. 1 W. S. Boner in Section 25, Block A-43, Andrews County, is drilling below 4,475 feet without any change, and appearing as having small chances of making a producer. The company's No. 1 Ford, to the north, topped the pay at 4,290 feet and logged an increase at 4,372 feet, going to 4,613 feet before plugging back and completing for a small producer at 4,564 feet. It is located in Section 16. No. 1 Boner is running lower structurally than the discovery well, and may have a chance to produce from the lower pay horizon found in No. 1 Ford.

Glasscock County

Mann and Curries' No. 1 Poston in Section 27, Township 3s, T.&P. Survey, western Glasscock County wildcat, is preparing to run 8¼-inch casing after getting a hole full of salt water from 2,220-50 feet, and drilling to 2,255 feet. Peck and Service's No. 1 R. L. Gillian, Section 21, Block 33, T.&P. Survey, another Glasscock County wildcat, is shut down at 2,415 feet to be plugged.

Penn and others' No. 1 Habenstreit in Section 47, Township 3s, T.&P. Survey, in Glasscock County, is running 8¼-inch casing. Total depth of the test is 2,435 feet.

Loving County

Tennant and others' No. 1 Roy Martin in Section 66, Block 1, W.&N.W. Survey, a test approximately 1 mile southeast of production in the Wheat Pool, Loving County, will prove but a small producer. It is standing with total depth at 4,380 feet in Delaware sand. It is estimated good for around 40 or 50 bbls. per day, a small well for the field.

Pipe Line Runs

According to scout reports total pipe line runs for March, 1932, in the West Texas district, were 5,629,955 bbls., an increase of over 441,000 bbls. over February. However, there were two days' difference in the two months, which accounts for a large amount of the increase. There was 24,080,645 bbls. in stock, and 27,565,271 bbls. room, a decrease of 100,-215 bbls. from the previous month.

Ranger and Wichita Falls

There were two locations staked in Callahan, one in Coleman, one in Palo Pinto and three in Shackelford Counties during the week, with three producers and three dry holes completed in the district during the same period. There are 57 active operations in the entire district, taking in Parker and Johnson Counties.

There were eight locations staked in Young County, seven in Archer and seven in Wichita County, all of which are in the Wichita Falls district.

Ungren and Frazier are completing a shallow well on the Jackson ranch, Section 21, E.T.R.R. Survey, extreme northern Callahan County, approximately 1,-700 feet northwest of the nearest production which is coming from a deeper pay, around 1,300 feet. The Jackson well is estimated good for around 40 bbls. daily from sand at 911 feet. It was drilled to 913 feet, and 6-inch casing run preparatory to completing it.

The Tidal Oil Co. sold its Hodnett lease in the Blake Field, Brown County, including seven wells, and the Arledge lease in the Crosscut area, same county, including two wells to Jameson, Pollard and Forster of Coleman, Tex. It also sold its Cotton lease of 120 acres, including two wells, and its Owen lease of 120 acres, including one well, both in Eastland County, to the same parties. Brown and Eastland Counties are in the Ranger district.

O. T. Anderson and others' No. 1 Abercrombie, an offset to the discovery well of the area, Perkins-Cullum's No. 1-A Abercrombie, in semiwildcat area, Archer County, is flowing naturally, an estimated 150 to 250 bbls. daily from sand topped at 1,207 feet. Total depth is 1,212 feet. This is a much better well than the discovery, and will no doubt increase trading and boost prices on leases and royalties in the area.

Fain & McGaha's No. 1 J. L. Jackson, offset to the company's No. 1 fee discovery which opened a new small pool in the Holliday area, Archer County, is testing oil sand logged from 1,791-92 feet, and promises the second producer for the area. It is north of the discovery well.

United Producers Co. is to drill its No. 1 L. F. Wilson in Chalk Hill area, Archer County, to 3,650 feet. It is now shut down at 2,355 feet after failing to make a well in the Canyon series.

Lindsay Drilling Co.'s No. 2 Wilson in the Chalk Hill area, Archer County, is estimated good for 600 bbls. per day, with plenty of gas pressure. It was recently deepened 4 feet to 2,210 feet, and is still in oil sand. It is the most southwesterly Canyon series producer in the area.

Panhandle District

There were six locations staked in this district during the week, four in Gray County and two in Carson, two of them being old producers which are to be deepened.

There were six completions also, two of which were old producers deepened, increasing production materially.

DAILY AVERAGE CRUDE OIL SHIPMENTS FROM WEST TEXAS

Week Ending April 21

Shipments Through Main Trunk Lines

Company, size, location—	Amount
Atlantic P. L., 10-in., Houston	19,587
Gulf P. L., 10-in., Ranger	none
Humble P. L., 2-8-in., San Angelo	23,005
Humble P. L., 12-in., Ingleside	47,677
Illinois P. L., 2-8-in., Del Rio	28,236
Magnolia P. L., 8-in., De Leon	none
Shell P. L., 10-in., Cushing, Okla.	39,066
Shell P. L., 10-in., Houston	17,126
Texas P. L., 12-in., Houston	23,738
Total	198,435
Tank car shipments	none
Shipments to refineries	23,101
Daily average production West Texas and Lea County, New Mexico	213,667
Total daily average distribution	221,536
Daily average from storage	7,869

COMPLETIONS IN WEST TEXAS DISTRICT

Howard County

Cardinal Oil Co.'s No. 2 Settles, top pay 2,324 feet, increase 2,355-65, 2,390-98 and 2,420-32 feet, initial production 1,420 bbls. pumping, total depth 2,432 feet.

Loving County

Bill Little's No. 1 Freels, total depth 4,250 feet, plugged back to 4,249 feet, top pay 4,238 feet, shot 150 quarts 4,-215-49 feet, initial production 182 bbls. Reagan-McElvain's No. 3 fee, total depth 4,301 feet, plugged back to 4,299 feet, top pay 4,288 feet, shot 180 quarts 4,-256-94 feet, initial production 45 bbls.

Pecos County

Cardinal Oil Co.'s No. 1 J. Tippett, total depth 675 feet, plugged back to 585 feet, initial production 3 to 5 bbls. oil per day.

Ward County

Sturm and others' No. 2 Jones, total depth 2,497 feet, top pay 2,473 feet, shot 30 quarts 2,470-80 feet, initial production 32 bbls.

COMPLETIONS IN PANHANDLE DISTRICT

Carson County

Skelly Oil Co.'s No. 16 West Schaffer, top pay 3,026 feet, initial production 220 bbls., total depth 3,183 feet.

Gray County

Champlin Oil & Refining Co.'s No. 5 McLaughlin, deepened well, old total depth 2,973 feet, new total depth 3,000 feet, initial production 30 bbls. oil and 5 bbls. of water. Danciger Oil & Refining Co.'s No. 1 McLaughlin, old total depth 2,921 feet, new total depth 3,038 feet, increase in pay 3,033-68 feet, new initial production 60 bbls. per day, was making 20 bbls. per day. Morydan's No. 2 M. B. Davis, old total depth 2,726 feet, new total depth 2,752 feet, initial production 640 bbls., increase in pay 2,736 feet. Nelson and others' No. 1 Crews, dry and abandoned, total depth 2,619 feet. Skelly Oil Co.'s No. 7 East Schaffer, top pay 3,245 feet, shot 160 quarts 3,219-67 feet, initial production 250 bbls., total depth 3,271 feet.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending May 9

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks—
Fuhrman Pet. Co.'s No. 1 Boner, 1,320 ft. from N and 440 ft. from W, Sec. 24, Blk. A-43, P.S.L.	Drlg. 4,365 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	S.D. 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E, Sec. 163, T.&N.O. Sur.	S.D. 1,700 ft.; set 8-in. csg.

CRANE COUNTY

Continental Oil Co.'s No. 1-D Cowden, 200 ft. from S and 2,492 ft. from E Sec. 18, Blk. X	Drlg. 850 ft.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and S.D.
Stanolind Oil & Gas Co.'s No. 1 Massie, 660 ft. from S and 1,980 ft. from E, Sec. 47, Blk. UV, G.C.&S.F. Sur.	Location.
The Texas Company's No. 1 B. B. Ingham, 330 ft. from S and 2,330 ft. from E line, Sec. 36½, I.&G.N. Sur.	Location.

COKE COUNTY

Mid-Kansas Oil & Gas Co.'s No. 1 Hearn, 980 ft. from S and W, Sec. 271, Blk. 1-A, H.&T.C. Sur.	Drlg. 1,270 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur.	To resume drilling.

ECTOR COUNTY

Thomas et al's No. 1 Edwards, 330 ft. from S, 2,310 ft. from E, Sec. 38, Blk. 43, Twp. 3s, T.&P. Sur.	Drlg. 770 ft.
H. F. Wurts' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G. M. M.Br.&A. Sur.	T.D. 3,275 ft.

(Continued on Next Page)

NO-OX-ID
IRON + OX = RUST
TRADE MARK
The Original Rust Preventive

FILLERS GRAY — RED — BLACK

New Developments Are ALWAYS Under Way in the Dearborn Laboratories

Much reconditioning work in maintenance of oil storage tanks will be necessary this year.

Adapted especially to this work as a cushion bond for paint, we announce NO-OX-ID FILLER RED. This material sets to a dry state in a few hours, but does not become hard and brittle. It is excellent on tanks and piping, preventing the rust pit marks coming through the coatings. Aluminum paint is highly recommended as an application over NO-OX-ID FILLER, although paint to match any color scheme can be used.

Also, there are many places protected from the weather where these FILLERS will give excellent service without paint. They may be had in red, gray and black.

We have oft times been asked to perfect a NO-OX-ID coating over which paint could be applied. NO-OX-ID FILLER RED is the answer. It has all the remarkable rust inhibitive characteristics of NO-OX-ID—not a paint, but a reliable cushion base for paint.

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EAST TEXAS FIELDS

(Continued from Page 54)

in one-quarter hour through open tubing, total depth 3,619 feet. The Texas Company's No. 3 Price, top sand 3,575 feet, initial production 100 bbls. per hour through open 2-inch tubing, total depth 3,610 feet.

Smith County

Gulf Production Co.'s No. 5 Jack Wiley, top sand 3,708 feet, initial production 80 bbls. per hour through three-quarters-inch tubing choke, total depth 3,725 feet. Hawkins and Sutton's No. 1 Church, top sand 3,809 feet, initial production 60 bbls. per hour through 2½-inch tubing choke, total depth 3,812 feet. Johnson and Owens' No. 2-A Jackson, top sand 3,745 feet, initial production 67 bbls. per hour through open tubing, total depth 3,749 feet. Mid-Kansas Oil & Gas Co.'s No. 7 M. L. Thompson, top sand 3,616 feet, initial production 160 bbls. per hour through 2½-inch tubing choke, total depth 3,633 feet. Nash and Bloxom's No. 2 Cole, top sand 3,768 feet, initial production 15 bbls. in one-quarter hour through open tubing, total depth 772 feet. J. P. O'Neal's No. 4 Mayfield, top sand 3,765 feet, initial production 70 bbls. per hour pinched, total depth 3,775 feet.

Pugh-Hickman's No. 3 S. S. Cooke, top sand 3,693 feet, initial production 70 bbls. in 30 minutes through open tubing, total depth 3,707 feet. Sinclair Prairie Oil Co.'s No. 9-A Mayfield, top sand 3,804 feet, initial production 40 bbls. in 15 minutes through open tubing, total depth 3,810 feet; No. 4 Amanda Wiley, top sand 3,792 feet, initial production 30 bbls. in 15 minutes through 1-inch tubing choke on bottom, total depth 3,795 feet; No. 2 Jack Wiley, top sand 3,777 feet, initial production 40 bbls. in 15 minutes through open tubing, total depth 3,785 feet.

Upshur County

Atlantic Oil & Production Co.'s No. 6 D. A. Porter, top sand 3,659 feet, initial production 22 bbls. per hour through tapered tubing, total depth 3,685 feet. H. W. Clarkston and others' No. 3 O'Byrne, top sand 3,603 feet, initial production 62 bbls. per day through tubing choke, total depth 3,644 feet. Conservative Oil Co.'s No. 1 C. J. Mackey, top sand 3,724 feet, initial production 100 bbls. per day through five-thirty-seconds inch tubing choke, total depth 3,735 feet. E & D Oil Co.'s No. 2 Thomas Wells, top sand 3,706 feet, initial production 62 bbls. per day through various chokes, total depth 3,732 feet.

Everett Drilling Co.'s No. 2 A. J. Saunders, top sand 3,612 feet, initial production 62 bbls. per day through various chokes, total depth 3,642 feet. Jay & Kay's No. 3 Victory, location abandoned. Magnolia Petroleum Co.'s No. 9 Adkins, top sand 3,680 feet, initial production 60 bbls. per hour through open tubing, total depth 3,697 feet. Shano Oil Co.'s No. 3 Doby Rodden, top sand 3,741 feet, initial production 62 bbls. per day through various chokes, total depth 3,756 feet. Simms and Stanolind Oil & Gas Co.'s No. 8-B J. J. Flewellen, top sand 3,739 feet, no gauge, total depth 3,746 feet.

Van Zandt County

Glentex Petroleum Co.'s No. 1 H. F. Hooks, dry and abandoned, total depth 2,941 feet. Pure Oil Co.'s No. 5 W. H. Cooke, initial production first 24 hours 200 bbls., total depth 2,967 feet.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Preceding Page)

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 ..... S.D. 2,257 ft.

FISHER COUNTY

Condor Petroleum Co.'s No. 1 Steele, 660 ft. from S and 330 ft. from W of W half of SE Sec. 210, B.B.B.&C. Ry. Sur. ..... Drlg. 1,710 ft.

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E, Sec. 300, Blk. 1, B.B.B.&C. Sur. ..... T.D. 5,255 ft.; underreaming 5 3/16-in. csg.

Sinclair-Prairie's No. 2 Steele, 250 ft. from N and W of NE Sec. 72, H.T.&B. Sur. ..... Drlg. 1,725 ft.

Southern Oil Corp. of America's No. 1 Wm. Flannigan, 240 ft. from E and 165 ft. from W line of S 20 acres of SW, Sec. 20, B.B.B.&C.R.R. Sur. ..... Swabbed 384 bbls. 24 hrs.; T.D. 3,111 ft.

GAINES COUNTY

McElreath et al's No. 1 Sparks, 330 ft. from N and E Sec. 397, Blk. G ..... Rig up; moving in tools.

GLASSCOCK COUNTY

Mann et al's No. 1 fee, 330 ft. from N and 1,980 ft. from E, Sec. 27, Blk. 34, Twp. 2s, T.&P. Sur. ..... Drlg. 2,270 ft.

Humble Oil & Ref. Co.'s No. 2 Arrington, 1,300 ft. from W, Sec. 23, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 1,265 ft.

Peck & Service's No. 1 Gillean, 2,310 ft. from S, 1,650 ft. from E, Sec. 21, Blk. 33, Twp. 3s, T.&P. Sur. ..... T.D. 2,415 ft.; to abandon.

Penn Oil Co. et al's No. 1 F. A. Hohenstreit, 2,310 ft. from N and E lines of Sec. 47, Blk. 36, Twp. 3s, T.&P. Sur. ..... Drlg. 2,445 ft.

GARZA COUNTY

Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,650 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... S.D. 3,390 ft.

HOWARD COUNTY

American-Maracaibo's No. 5-A Settles, 1,896 ft. from N, 1,884 ft. from W, Sec. 6, Blk. 32, T.&P. Sur. ..... Rig.

F. H. E. Oil Co.'s No. 1 Denman, 330 ft. from N, 2,310 ft. from E of Sec. 14, Blk. 30, T.&P. Sur. ..... Drlg. 2,615 ft.; show oil 2,530 ft.

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. Spudded and S.D.

Harrison's No. 2 Denman, 1,650 ft. from S and 355 ft. from E Sec. 16, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 2,150 ft.

Myers et al's No. 1 Denman, 2,305 ft. from S and 2,320 ft. from E Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ..... S.D. 730 ft.

Sinclair-Prairie Oil Co.'s No. 2 Dodge, 2,313 ft. from S and 300 ft. from W, Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 125 ft.

Wallace et al's No. 1 Belt, 1,960 ft. from N, 2,640 ft. from W, Sec. 12, Blk. 30-1s, T.&P. Sur. ..... Drlg. 2,710 ft.; T.P. 2,480 ft.

IRION COUNTY

Apollo Oil Co.'s No. 4 Nutt, 584 ft. from N and 1,563 ft. from W of Subd. No. 6, Gonzales County School Land ..... Cellar.

Davis et al's No. 1 Suggs, 1,560 ft. from S and 925 ft. from W, Sec. 3,081, Blk. 33, H.&T.C. Sur. ..... S.D. 7,535 ft.

Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... S.D. 7,420 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 42.4-acre tract in G. Martinez Sur. ..... S.D. 1,005 ft.; temp. abnd.

Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. ..... Spudded and S.D.

J. M. Johnson's No. 1 Swann, 6,150 ft. from S and 1,550 ft. from E, I. Miley Sur. ..... Rigged up and S.D.

Smart & Reynolds' No. 1 Reynolds, 2,500 ft. from N and 150 ft. from W, Sec. 2, W. T. Scott Sur. No. 3. Location.

C. S. Spelling et al's No. 1 Lillie, 200 ft. from N and W Sec. 4, E. Miller Sur. No. 3 ..... Drlg. 1,530 ft.

Transcontinental Prod. Co.'s No. 1 Rust, 5,300 ft. N and 995 ft. W of SE cor. J. J. Hughes Sur. 556 ..... Spudded.

Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 8, O.A.L. Sur. ..... Location.

LOVING COUNTY

Eppenauer's No. 1 Freels, 1,263 ft. from NE, 410 ft. from NW, Sec. 92, Blk. 1, W.&N.W. Sur. ..... Drlg. 870 ft.

Covey et al's No. 1 Wheat, 2,310 ft. from SW, 330 ft. from SE, Sec. 3, Blk. 3, W.&N.W. Sur. ..... Drlg. 1,165 ft.; T.S. 720 ft.
Eppenauer Drlg. Co.'s No. 1 Allen, 465 ft. from NE and SE, Sec. 4, Blk. 3, W.&N.W. Sur. ..... Drlg. 1,200 ft.
Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S, Sec. 46, Blk. 53, T.&P. Sur. ..... S.D. 810 ft.
Falbre & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW, Sec. 79, Blk. 33, H.&T.C. Sur. ..... T.D. 4,275 ft.; cleaning out.
Lewis & Siegel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W, Sec. 4, Blk. 56, Twp. 1, T.&P. Sur... S.D. 2,330 ft.
Martin's No. 1 Freels, 3,514 ft. from NE and 412 ft. from NW of Sec. 93, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,003 ft.
Martin et al's No. 1 Brookfield, 330 ft. from N and W, Sec. 30, Blk. 29, P.S.L. ..... Location.
Miller et al's No. 1 Ferguson, 990 ft. from N and E of Sec. 44, Blk. 29 ..... S.D.
Tennant et al's No. 1 Martin, 990 ft. from NW and SW, Sec. 66, Blk. 1, W.&N.W. Sur. ..... S.D. 4,380 ft.; made one flow est. 50 bbls.
Thomas' No. 1 Wheat, 2,310 ft. from NW, 990 ft. from NE, Sec. 83, Blk. 1, W.&N.W. Sur. ..... S.D. 1,840 ft.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. ..... S.D. 2,860 ft.

PECOS COUNTY

Anderson's No. 1 Lee Fever, 330 ft. from N and W of Sec. 76, Blk. 8, H.&G.N. Sur. ..... S.D. 2,037 ft.
Black et al's No. 1 Pecos Valley, 1,037 ft. from SE, 423 ft. from SW, Sec. 36, Blk. 3, H.&T.C. Sur. ..... T.D. 1,720 ft.; to abandon.
Corvette Oil Corp.'s No. 8 H. Monroe, 1,040 ft. from E line and 150 ft. from N line of Sec. 39, G.C.&S.F. Sur., Blk. 194 ..... Location.
Dan Easter's No. 4 Tippett, 150 ft. from N and 1,335 ft. from W of SE, Sec. 40, Blk. 194, G.C.&S.F. Sur... T.P. 1,290-95 ft.; T.D. 1,330 ft.; LP. 65 bbls. through csg.
Gulf Prod. Co.'s No. 34 Yates, 13,415 ft. from W and 330 ft. from S of Runnells County School Land ..... 12½-in. csg. cmtd. 367 ft.
Hampton et al's No. 1 Byrne, 1,980 ft. from NW and 1,500 ft. from NE, Sec. 54, Blk. 10, H.&G.N. Sur. ... T.D. 1,395 ft.; T.P. 1,356 ft.; S.D. for tubing.
Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... S.D. 1,454 ft.; to plug.

PRESIDIO COUNTY

Sadler et al's No. 1 Bledsoe, 3,640 ft. from N and W Sec. 15, Blk. 354, G.C.&S.F. Sur. ..... Ready to spud.

REAGAN COUNTY

Big Lake Oil Co.'s No. 6-C University, 1,370 ft. fro mS and 1,000 ft. from E, Sec. 12, Blk. 2 ..... Fishing 8,367 ft.
Big Lake Oil Co.'s No. 7-C University, 1,570 ft. from W and 725 ft. from S, Sec. 25, Blk. 9 ..... Drlg. 975 ft.
Group Oil Corp.'s No. 5-B University, 2,700 ft. from S and 1,775 ft. from W, Sec. 36, Blk. 9 ..... Bldg. foundation.

REEVES COUNTY

F. McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur. ... S.D. 140 ft.
Southern Star Oil Co.'s No. 1 Wright, 1,330 ft. from S and W, Sec. 58, Cassel's Sur. ..... S.D. 75 ft.; bldg. derrick.
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur... S.D. 5,044 ft.

RUNNELS COUNTY

Blue Bonnett Oil Co.'s No. 1 McMillan, 1,368 ft. from N and 660 ft. from W, Sec. 22, N. Travis Sur. ..... Drlg. 1,405 ft.
Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 2,417-20 ft.; S.D. 2,600 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Fishing 5,410 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... S.D. 5,580 ft.; fishing.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Suh. ..... S.D. 5,050 ft.
W. S. Guthrie's No. 1 Snyder National Bank, 330 ft. from N and 2,310 ft. from E of Sec. 115, Blk. 97, H.&T.C. Sur. ..... Location.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 68, Blk. 2, H.&G.N. Sur. ..... Spudded and S.D.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... Drlg. 4,655 ft.

TAYLOR COUNTY

Eastland Oil Co.'s No. 1 King, 150 ft. from S and E, Lot 27, Willis Sur. ..... Drlg. 2,210 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T. Sur. ..... S.D. 2,269 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... S.D. 3,150 ft.; moved off tools.
Miller Bros.' No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. Sur.. S.D. 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,452 ft. from W, Sec. 5, G. W. Hurley Sur. ..... Drlg. 1,200 ft.

TOM GREEN COUNTY

Andrews' No. 1 Pugh, 250 ft. from N and 5,184 ft. from E, James Eldridge Sur. No. 73 ..... S.D. 453 ft.
Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... S.D. 760 ft.; S.O. and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur.... S.D. 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

UPTON COUNTY

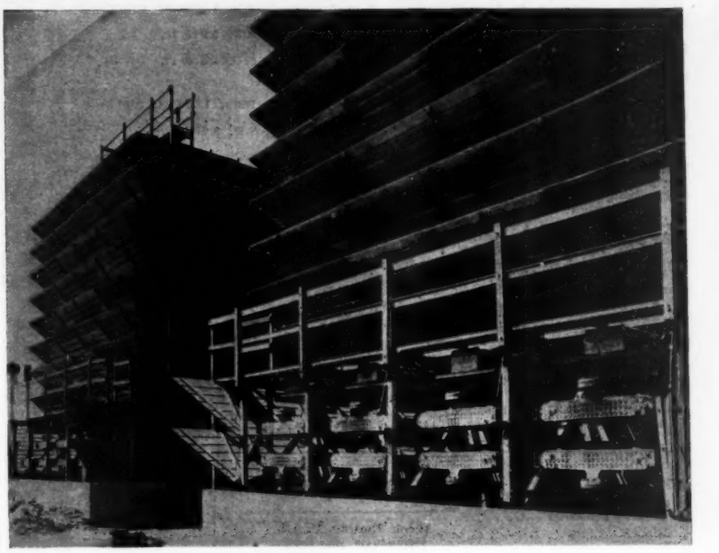
Farley et al's No. 1-B Lone, 2,310 ft. from N and E, Sec. 36, Blk. 1, M.-K.-T. Sur. ..... T.P. 2,183 ft.; plugged back to 2,304 ft.; pumped 109 bbls. in 8 hours.

VAL VERDE COUNTY

Couch et al's No. 1 J. P. Yoas, 1,300 ft. from the N line and E line of Sec. 31, Blk. 1, L&G.N. Sur. ..... S. D. 220 ft.
Independent Operators' No. 1 Whitehead, SE SE Sec. 10, Blk. 4, L&G.N. Sur., elev. 1,175 ft. ..... S.D. 5,360 ft.
O. O. Owens' No. 1 Mills, Sec. 138, Blk. 1, L&G.N. Sur., elev 2,130 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros. et al's No. 1 Smith, 330 ft. from NE and NW, Sec. 4, Blk. 34, H.&T.C. Sur. ..... Drlg. 890 ft.
Bradford & Bentley's No. 1 B. Carson, 1,650 ft. from the NE line and 990 ft. from the SE line of Sec. 26, H.&T.C. Sur., Blk. ..... T.D. 860 ft.
Eastland Oil Co.'s No. 1 Weiss, 2,365 ft. from SE and SW, Sec. 4, Blk. 34, H.&T.C. Sur. ..... S.D. 2,192 ft.
Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 14, H.&T.C. Sur. ..... T.D. 2,740 ft.
Eppenauer Drlg. Co.'s No. 1 Townsend-Moore, 990 ft. from SE and 330 ft. from SW, Sec. 17, Blk. 34, H.&T.C. Sur. ..... Spudded and S.D.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. ..... S.D. 2,145 ft.
Gulf Prod. Co.'s No. 11 Hutchings, 330 ft. from N and 990 ft. from W of 370 acres in S half Sec. 5, Blk. F .. Drlg. 200 ft.



No scale problem in these cooling towers

nor in hundreds of others equipped with G-R Bentube Sections

HARD waters cannot materially build up scale on the cooling surface of G-R Bentube Sections. Even slight changes in temperature cause sufficient change in the flexure of the tubes to crack and flake off scale accumulations.

This scale-shedding action takes place continuously during normal operation of the sections, but when necessary may be arbitrarily accomplished by momentarily shutting off the supply of cooling water, so as to increase the expansion and bowing of the tubes. Due to the effectiveness of this scale-shedding action G-R Bentube Sections will maintain their rated capacity for long periods without requiring hand-scaling.

It is this exclusive advantage of G-R Bentube Sections, combined with their careful construction, long life, interchangeability and wide range of uses which have made them the outstanding atmospheric coolers on the market today.

G-R Bentube Sections are fully described in bulletin which will be sent on request.

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285 Madison Ave., New York
Branches in principal oil centers

Griscom-Russell
Heat Transfer Apparatus

Massie et al's No. 1 Stewart, 330 ft. from SW and SE, Sec. 12, Blk. 14, H.&T.C. Cur. ..... Drlg. 2,075 ft.
Moran & Burkhart's No. 2 J. T. Sweatt et al, 3,310 ft. from SW, Sec. 1, J. Howe Sur. ..... S.D. 1,510 ft.
Moran & Miles' No. 1 Boogher, 3,602 ft. from NE and 1,302 ft. from SE, Sec. 11, Blk. 5, H.&T.C. Sur. ..... S.D. 3,040 ft.
R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,522 ft. from SW, Sec. 1, J. Howe Sur. ..... S.D. 1,670 ft.
Plains Prod. Co.' and Simms Oil Co.'s No. 1 Benton Land Co., 440 ft. from the SE and 440 ft. from SW lines of Sec. 26, W.&N.W.R.R. Sur., Blk. 1 ..... Drlg. 1,030 ft.
Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. ..... S.D. 3,602 ft.
Renaud-Prettyman's No. 1 University, 330 ft. from N and E Sec. 4, Blk. 16 ..... Drlg. 300 ft.
Richardson et al's No. 3 O'Brien, 1,372 ft. from N, 330 ft. from W, Sec. 5, Blk. F ..... S.D. 2,420 ft.
Richardson et al's No. 7 O'Brien, 1,900 ft. from N and 330 ft. from W Sec. 5, Blk. F ..... T.D. 2,762 ft.; swabbing and cleaning out.
Richardson et al's No. 9 O'Brien, 1,112 ft. from N and 990 ft. from W Sec. 5, Blk. F ..... Drlg. 1,200 ft.
Rixford et al's No. 1 Green, 330 ft. from NW and SW Sec. 4, Blk. 34, H.&T.C. Sur. ..... S.D. 2,115 ft.
Sturm-Simms Oil & Gas Co.'s No. 2 Jones, 1,650 ft. from NE and 330 ft. from SE, Sec. 25, Blk. B-29, P.S.L. ... Location.
Thomas et al's No. 1 Bennett, 2,310 ft. from NE and SE, Sec. 16, Blk. 34, H.&T.C. Sur. ..... Location.
T. P. Coal & Oil Co.'s No. 2 James, 330 ft. from NW and NE Sec. 5, Blk. 34 ..... T.D. 2,470 ft.; T.P. 2,300 ft.
White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. ..... S.D. 755 ft.

WINKLER COUNTY

Adams et al's No. 1 Scarborough, 660 ft. from N and E Sec. 1, Blk. 77, P.S.L. ..... Drlg. 2,050 ft.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending May 9

BRISCOE COUNTY

Company, well, farm name, section and block— Remarks:
Humble O. & R. Co.'s No. 1 C. Adair est., 2,500 ft. from N line, 3,100 ft. from E line, Sec. 7, Blk. G-6 ..... Drlg. 3,530 ft.

CARSON COUNTY

Danciger's No. 4 Byrum, 330 ft. from N and E, Sec. 185, Blk. 3, I.&G.N. Sur. ..... Cellar.
H. A. M. Oil Co.'s No. 2 Cooper, 330 ft. from S and E, Sec. 5, Blk. 9, I.&G.N. Sur. ..... Location.
Pulse-Shell Pet. Corp.'s No. 1 Byrum, 330 ft. from N and W, W¼ NE, Sec. 188, Blk. 3, I.&G.N. Sur. ..... T.D. 1,130 ft.; standardising.
Skelly Oil Co.'s No. 10 E. Schaffer, 440 ft. from S, 2,640 ft. from E of N half, Sec. 189, Blk. 3, I.&G.N. Sur. ... Location.
Skelly Oil Co.'s No. 17 West Schaffer, 1,320 ft. from S, 440 ft. from E, Sec. 87, Blk. 4, I.&G.N. Sur. ..... Drlg. 2,255 ft.
Texoma Nat. Gas Co.'s No. 1-E Dauer, 1,335 ft. from S, 1,327 ft. from E, Sec. 73, Blk. 4, I.&G.N. Sur. ..... Drlg. 1,975 ft.
Texoma Nat. Gas Co.'s No. 1-T Jordan, 1,382 ft. from S, 1,324 ft. from E, Sec. 83, Blk. 4, I.&G.N. Sur. ..... Bldg. derrick.
Texoma Nat. Gas Co.'s No. 1-G Haiduk, 2,589 ft. from N, 1,531 ft. from W, Sec. 21, Blk. 4, I.&G.N. Sur. ... Pulling 10-in. csg. 2,377 ft.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands ..... T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur. ..... S.D. 2,508 ft.
Downey et al's No. 1 Beasley, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur. ..... Rigged up.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e ..... S.D. 275 ft.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S, 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur. ..... S.D. 2,428 ft.
Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur. ..... Spudded.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur. ..... S.D. 3,775 ft.
Continental Oil Co.'s No. 1-A Wright, 330 ft. from S and E of E½ NW, Sec. 13, Blk. 3, I.&G.N. Sur. ... Drlg. 1,725 ft.
Danciger O. & R. Co.'s No. 2 William, 150 ft. N, 990 ft. from W S half NW, Sec. 7, Blk. 1, A.C.H.&B. Sur. ... Drlg. 740 ft.
Elbar Corp.'s No. 1 Sethinga, 330 ft. from S and E, Sec. 13, Blk. A-9, H.&G.N. Sur. ..... Location.
Foster's No. 1 Webb, 330 ft. from S and W, Sec. 43, Blk. 25, H.&G.N. Sur. ..... S.D. 2,390 ft.; show oil 2,375 ft.
Graham et al's No. 1 Barrett, 990 ft. from N, 330 ft. from E, Sec. 112, Blk. 3, I.&G.N. Sur. ..... Standardising 1,180 ft.
Granite Prod. Co.'s No. 1 Chapman, 275 ft. from N line, 110 ft. from W line, S½ SW, Sec. of Blk. 26, H. &G.N. Sur. ..... S.D. 2,310 ft.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. 2-B, H.&G.N. Sur. ..... Drlg. 3,040 ft.
Jewel Oil Co.'s No. 1 Meers, 330 ft. from S and W, NW SW, Sec. 106, Blk. 3, I.&G.N. Sur. ..... Fishing 3,325 ft.
Mazda-Shell's No. 2 Worley Reynolds, 660 ft. from S and E of NE, Sec. 35, Blk. 3, I.&G.N. Sur. ..... Material.
Mid-Kansas O. & G. Co.'s No. 1 Webb, 990 ft. from N, 330 ft. from W, NE Sec. 61, Blk. 25, H.&G.N. Sur. .. Drlg. 1,140 ft.
Nipper et al's No. 1 Morse, 330 ft. from N and E, Sec. 1, Blk. 26, I.&G.N. Sur. ..... Fishing 2,635 ft.
Nabob Oil Co.'s No. 1-E Morse, 330 ft. from S and W, W½ SE, Sec. 67, Blk. 25, H.&G.N. Sur. ..... Bldg. rig.
Operators Royalty & Prod. Co.'s No. 2 Arnold, 330 ft. from S and W, Sec. 149, Blk. 3, I.&G.N. Sur. ..... Rig.
Operator's No. 1 Ferguson, 330 ft. from N and E of NW, Sec. 34, Blk. B-2, H.&G.N. Sur. ..... Drlg. 3,045 ft.
Parton & Holt's No. 2 Morse, 330 ft. from W, 250 ft. from N, W½ SW, Sec. 5, Blk. 26, H.&G.N. Sur. ..... Drlg. 520 ft.
Phillips Pet. Co.'s No. 6 Wood-Wright, 330 ft. from N and E, Sec. 13, Blk. 3, I.&G.N. Sur. ..... S.D. 2,656 ft.
Pulse-Shell Pet. Corp.'s No. 1 Culler, 330 ft. from S and E, Sec. 173, Blk. 3, I.&G.N. Sur. ..... Spudded.
Pulse-Shell's No. 1 Brown, 290 ft. from N, 250 ft. from E of NW, Sec. 128, Blk. 3, I.&G.N. Sur. ..... Rig.
Saulsbury et al's No. 1 Davidson, 330 ft. from S and W, Sec. 37, Blk. B-2, H.&G.N. Sur. ..... Drlg. 710 ft.
Saunders et al's No. 2 Sullivan, 322 ft. from W, 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Will plug back to 3,275 ft. and shoot.
Shamrock O. & G. Co.'s No. 3 Saunders, 330 ft. from S and W, Sec. 46, Blk. 3 ..... Standardising 2,820 ft.
Skelly Oil Co.'s No. 1 Saunders, 990 ft. from S and E of SW, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... T.D. 2,812 ft.; to plug back for gasser.
Skelly Oil Co.'s No. 8 East Schaffer, 220 ft. from N, 440 ft. from W, Sec. 172, Blk. 3, I.&G.N. Sur. ..... Drlg. 3,155 ft.
Skelly Oil Co.'s No. 9 East Schaffer, 1,320 ft. from S, 440 ft. of N½, Sec. 189, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,425 ft.
Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.B.&S.F. Sur. ..... Location.
Tedesco Oil Co.'s No. 3 Morse, 330 ft. from N and E of NE SW, Sec. 1, Blk. 26, H.&G.N. Sur. ..... Location.
The Texas Co.'s No. 7 Wright, 330 ft. from N and W, Sec. 13, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,225 ft.
The Texas Co.'s No. 9 Williams, 150 ft. from S, 990 ft. from N half NW, Sec. 7, Blk. 1, A.C.H.&B. ..... Ran 12-in. csg. 300 ft.
The Texas Co.'s No. 13 Bowers, 990 ft. from N, 330 ft. from W of E half, Sec. 89, Blk. B-2, H.&G.N. Sur. ... Drlg. 3,020 ft.
Travis' No. 3 Back, 330 ft. from S, 2,300 ft. from E, Sec. 44, Blk. 25, H.&G.N. Sur. ..... Fishing 2,100 ft.; T.D. 2,767 ft.
Warner Oil Co.'s No. 2 Chapman, 382 ft. N, 220 ft. W of E 20 ac. of N½ NW, Sec. 69, Blk. 25, H.&G.N. .. Rigging up cable tools.
Weltzel Oil Co.'s No. 2 Morse, 330 ft. from S and E of N half NW, Sec. 67, Blk. 25, A.&G.N. Sur. ..... Rigging up standard tools.

HEMPHILL COUNTY

Hoover's No. 1 Hoover, 350 ft. from N, 1,200 ft. from E, G. S. Hood Sur. ..... To deepen old well; T.D. 5,055 ft.; moving in tools.

HUTCHINSON COUNTY

Baso's No. 1 Moore, 330 ft. from S, 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. ..... T.D. 3,030 ft.; shot 100 qts. 3,028-64 ft.; hole bridged.
Combination O. & G. Co. and Alspaugh's No. 1 Johnson, 330 ft. from S line, 330 ft. from E line, NW SW, Sec. 4, Blk. Y, A.&B. Sur. ..... Drlg. 2,385 ft.
Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. ... S.D. 450 ft.
Huber Pet. Co.'s No. 1-A Weatherly, 330 ft. from N and W, Sec. 26, Blk. Y, A.&B. Sur. ..... Drlg. 1,280 ft.
Liner Drlg. Co.'s No. 1-D Johnson, 350 ft. from N and E, Sec. 5, Blk. 3, B.&B. Sur. ..... S.D. 3,152 ft.
Oates and Marrow's No. 1 W. A. Starnes, C SE SW SE, Sec. 24, Blk. M-23, T.C.R.R. Sur. ..... T.P. 3,122 ft.; T.D. 3,177 ft.; shot; cleaning out.
Pharis Oil Co.'s No. 5 Smith, 660 ft. from N and W, SW, Sec. 14, Blk. Y, M.&C. Sur. ..... Spudded.
Stekoll's No. 1-D Whittenburg, 330 ft. from S, 450 ft. from E, Sec. 38, Blk. M-23, H.&T.C. Sur. ..... Drlg. 2,955 ft.; show oil 2,940 ft.
Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

MOORE COUNTY

Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. ..... S.D. 205 ft.
Dana O. & G. Co.'s No. 1 Robertson et al, 330 ft. from S and E, Sec. 165, Blk. 3-T, T.&N.O. Sur. ..... Cellar.
Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ..... Rig up.
Magnolia Pet. Co.'s No. 1 Nield, 330 ft. from S and E, N½, Sec. 361, Blk. 44, H.&T.C. Sur. ..... Show oil 3,421 ft.; T.D. 3,646 ft.; plugged back 3,626 ft.; to shoot.
Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Sunset Oil Co.'s No. 1 R. O. Brumley, 330 ft. from N line, 330 ft. from W line, SW, Sec. 360, H.&T.C. Sur. .. T.D. 3,598 ft.; plugged back and shot; cleaning out and swabbing.
Sunset Oil Co.'s No. 1 Dore, 330 ft. from N and W, W½, Sec. 318, Blk. 44, H.&T.C. Sur. ..... Drlg. 3,010 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... Drlg. 3,655 ft.

PARMER COUNTY

Magnolia Pet. Co.'s No. 1 Wilson, 330 ft. from N and W, SE, Sec. 73, H. Kelly Sur. ..... Set 9-in. pipe 4,446 ft.

POTTER COUNTY

Red River Gas Co.'s No. 7-A Bivina, center SW, Sec. 38, Blk. M-20, G.&M. Sur. ..... Drlg. 450 ft.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... T.D. 3,990 ft; to set 8-in. csg.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. ..... S.D. 2,690 ft.

WHEELER COUNTY

Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E, E½, Sec. 33, Blk. 24, H.&G.N. Sur. ..... S.D. 2,559 ft.; 15,000,000 ft. gas.

EAST AND EAST CENTRAL TEXAS WILDCATS

(Continued from Page 54)

Mid-Kansas Oil & Gas Co.'s No. 1 H. D. Kelley, 330 ft. from S line and 537 ft. from E line of lease, M. De Los Santos Sur. ..... Waiting on cmt. to set; T.D. 3,674 ft.
Mid-Kansas Oil & Gas Co.'s No. 9 M. M. Cross, 1,540 ft. from N line of Cherokee County and 537 ft. from W line of lease, Fowlks Sur. ..... T.D. 3,678 ft.
Mustang Oil Co.'s No. 1 Decker and Whiteman, east side of W 75 acres of S 150 acres of survey, 3 miles S of Maydelle, F. W. Fulgham Sur. ..... Drlg. 2,940 ft.
Dr. Tubbs et al's No. 1 J. H. Sharp, 330 ft. from N line and 71 ft. from E and W lines of 3½-ac. tract, M. De Los Santos Coy Sur. ..... Preparing to set csg. 122 ft.
Wilson & Stubbs' No. 1 L. Robert, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur. ..... S.D. 2,035 ft.; will skid derrick.

DALLAS COUNTY

Long Creek Dev. Co.'s No. 1 T. J. Lupton, center of 160-ac. tract, 3½ miles N of Mesquite, J. Johnson Sur. ..... Drlg. 650 ft.

DELTA COUNTY

Commerce Oil Co.'s No. 1 Ablowich, 150 ft. from S line and 776 ft. from W line of H. D. Jewett 52-ac. tract, E. Chick Sur. ..... Cleaning out 3,000 ft.
Joiner et al's No. 1 Blackwell, 800 ft. S and 150 ft. from E lines of 275-ac. tract, Dunnetelle Sur. ..... Drlg. 1,935 ft.

ELLIS COUNTY

Community's No. 1 Reeves ..... Waiting on cmt. to set 100 ft.
E. M. Rogers' No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur. ..... S.D. 1,435 ft.
Wortham Petroleum Co.'s No. 2 Cerf, John Harris Sur., 50 ft. W of No. 1 ..... Drlg. 1,000 ft.; set csg.

FRANKLIN COUNTY

Tom Harper's No. 1 fee, 150 ft. from N line and 200 ft. from E line of 116-ac. tr., W. M. Dawson Sur. .... T.D. 3,100 ft.
T. E. Mayberry's No. 1 M. L. Edwards, 345 ft. from E line of lease and 6½ miles NW of Mount Vernon, C. R. Miller Sur. ..... Bldg. derrick.

GREGG COUNTY

Adams and Lyles' No. 1 L. Howard, E offset to Sun Oil Co.'s No. 2 Smith, M. Scott Sur. ..... Drlg. 2,645 ft.
Alexander and Rassmussen's No. 1 Dixon, 325 ft. N and 169 ft. W of SE cor. of J. M. Dixon 106.5-ac. tract, I. Beaty Sur. ..... Derrick.
Henry L. Allen's No. 1 Bonner Estate, 330 ft. from N and E lines of 19.4-ac. lease, J. McRae Sur. ..... Location.

Arkansas Fuel Oil Co.'s No. 1 Taylor Lee, 330 ft. out of NW cor. of 52.1-ac. lease, William Robinson Sur. ..... Drlg. 2,525 ft.

Arkansas Fuel Oil Co.'s No. 1 E. M. Watley, 415 ft. E and 330 ft. N of SW cor. of 43.91-ac. lease, Wm. Robinson Sur. ..... Derrick.

Atlantic Oil Producing Co.'s No. 1 H. Pritchard, 330 ft. from N and E lines of lease, F. W. Johnson Sur. ..... Derrick.

Will Brown's No. 1 E. Choice, 400 ft. due east of Collins' No. 1 H. T. Elder ..... Set surface csg.

Canadian Oil & Production Co.'s No. 1 Hilburn, 994 ft. from S line and 313 ft. from W line of 40-ac. lease, Joseph Hay Sur. ..... Fishing 2,735 ft.

Continental Oil Co.'s No. 1 A. A. King, 330 ft. from N line and center of E and W lines of lease, M. Tennison Sur. ..... Derrick.

D. D. D. Oil Co.'s No. 1 Adkins, 786 ft. due N of McLemore's No. 1 Adkins, D. Dainwood Sur. ..... Testing 3,671 ft.

Danciger Oil & Refining Co.'s No. 1 Mattox, 330 ft. from N and W lines of 55.4-ac. lease, D. Sanches Sur. ..... Waiting on cmt. to set 3,600 ft.

Dodd and Markey's No. 1 J. F. Holt, 615 ft. E and 707 ft. N of SW cor. of 200-ac. tract, H. Edwards Sur. ... Derrick.

Empire Gas & Fuel Co.'s No. 1 E. L. Walker, 400 ft. from S line and 220 ft. from E line of lease, John Tate Sur. ..... Set csg.; T.D. 3,631 ft.

Empire Gas & Fuel Co.'s No. 1 H. E. Thomas, 330 ft. from N line and E lines of lease, J. M. Morris Sur. ..... Location.

Eslick and Baxzell's No. 1 J. H. Thomas, 225 ft. from N and S lines and 290 ft. from W line of N 15 acres of 65-ac. tract, H. F. Rogers Sur. ..... T.D. 3,590 ft.; 2,000 ft. oil in hole.

Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.2-ac. tract, M. Dillard Sur... Derrick.

S. A. Guiberson et al's No. 1 J. M. Christian, 150 ft. from W line and center N and S lines of 8.77-ac. lease, G. W. Hooper Sur. ..... Set csg. 104 ft.

Hughes et al's No. 1 Louley et al, 500 ft. from S line and center of E and W lines of Lot No. 3, D. Dainwood Sur. ..... Drlg. 3,630 ft.

Bob Jordan's No. 1 W. P. Crews, 275 ft. from S line and 330 ft. from E line of lease, J. B. Bradshaw Sur. ..... Rig up and S.D.

Koberg Oil Co.'s No. 1 L. Martin, 330 ft. from S and W lines of 25-ac. tract, T. Johnson Sur. ..... Rig up.

K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur..... S.D. 700 ft.

Lovett-Norr et al's No. 1 Rufus Smith, 1,100 ft. from N line and 750 ft. from W line of lease, R. Slaughter Sur. ..... Set surface csg. 55 ft.

Magnolia Petroleum Co.'s No. 1 J. W. Stone, 330 ft. from N and W lines of 66-ac. lease, D. Sanches Sur. ..... Testing 3,617 ft.

C. L. Mahaney's No. 1 Mt. Culver Church, center of 4-ac. tract, J. Hay Sur. ..... Drlg. 3,428 ft.

Miller and Lacy's No. 1 W. R. Nicholson, 330 ft. from S line and center of E and W lines of 39-ac. lease, M. Mann Sur. ..... Running csg.; T.D. 3,660 ft.

Mission Oil Co.'s No. 1 W. P. Crews, N offset to Bay Oil Corp.'s No. 1 Crews, J. N. Bradshaw Sur. ..... Derrick.

McVey et al's No. 1 Kelly Dixon, 140 ft. NW along corner line of street from E corner of Blk. No. 137 and 655 ft. SW at right angles, M. V. Winkle Sur... Spudded and S.D.

J. D. Patty et al's No. 1 J. C. McCormick, 207 ft. SE at right angles to Gladewater-Tyler road and 540 ft. SW of Abernathy and Kirkpatrick's No. 1 Gregston, M. Dillard Sur. ..... S.D. 1,600 ft.

E. A. Payne et al's No. 1 R. M. Woods, 20 ft. from S line and 31 ft. from W line of 2.13-ac. lease, H. R. Holit Sur. ..... Derrick.

Pennsylvania Oil & Refining Co.'s No. 1 Bonner, 693 ft. W and 330 ft. S of most easterly NE cor. of survey, James McRae Sur. ..... Rig up.

Pruitt and Standberry's No. 1 M. B. Hughey, Blk. No. 150, Kilgore Townsite, Mary Van Winkle Sur. ..... Derrick.

Reeves et al's No. 1 W. L. Hestland, center of five-eighths-acre tract, midway from Lampton Church and Sarson's No. 2 Hall, D. Sanches Sur. ..... Drlg. 600 ft.

Frank Russell's No. 1 Crimm, center of one-half-acre tract, M. V. Winkle Sur. ..... Derrick.

Shell Pet. Corp.'s No. 1 S. C. Fishborn, 330 ft. from N and E lines of 160-ac. lease, F. W. Johnson Sur..... Waiting on cmt. to set 3,501 ft.

Joe Simmons et al's No. 1 A. V. Bacle, 426 ft. S and 250 ft. W of NW cor. of Barnsdall's McGrede lease, G. W. Hooper Sur. ..... Drlg. 3,400 ft.

Victor C. Smith's No. 1 Knowles, center of Blk. 134, Mary Van Winkle Sur. ..... Set surface csg. 3,503 ft.

Stanolind-Simms et al's No. 1 Albright, 330 ft. from N and E lines of lease, W. H. Hart Sur. ..... Drlg. 2,676 ft.

Stroube and Stroube's No. 1 Finley and Thomas, 150 ft. from N line and 330 ft. from W line of 10-ac. lease, C. H. Alexander Sur. ..... Location.

Stroube and Stroube's No. 1 Anderson-Harris, 160 ft. from S and E lines of 5-ac. lease, being the E 5 acres of H. W. Wages tract, C. H. Alexander Sur. ..... Derrick.

Travis and Crosby's No. 1 K. P. Lodge Lot, 210 ft. S of Gulf's No. 6 Alexandria and 40 ft. from center line of road, M. V. Winkle Sur. ..... Testing 3,587 ft.

T. J. Tucker's No. 1 Mary Rufus, center of one-half-acre tract, Mary Van Winkle Sur. ..... T.D. 3,630 ft.

M. K. Towns' No. 1 Griffin Davis, W offset to Mullendore and Berry's No. 1 Davis, W. P. Chisum Sur. .... Drlg. 3,150 ft.

Turnbow et al's No. 1 Rodger Lacy, center of E half of Blk. No. 1, M. V. Winkle Sur. ..... Testing 3,600 ft.

Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,800 ft. from W of survey, Mary Van Winkle Sur. ..... Rig up.

Vance and Fagan's No. 1 Alexandria, center of one-quarter-acre tract out of NW cor. of Alexandria 21-ac. tract, M. V. Winkle Sur. ..... Rig up.

C. William et al's No. 1 George Anderson, center of 2½-ac. lease, C. H. Alexander Sur. ..... Rig up.

H. E. Wrenn's No. 1 A. A. King, 150 ft. from S and E lines of 79-ac. lease, W. P. Chisum Sur. ..... Swabbing; T.D. 3,753 ft.

Zion Oil Co.'s No. 1 Barnett, 260 ft. from E and W lines and 330 ft. from south L of lease, E half of W 50 acres of 150-ac. tract, Jacob Taylor Sur. .... Spudded.

HILL COUNTY

Sherman-Houseman's No. 1 J. F. Griffith, in Samuel Waddell Sur. ..... S.D. 3,256 ft.

HOPKINS COUNTY

Roark et al's No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tract in the John Polk Sur. ..... S.D. 540 ft.

HOUSTON COUNTY

Nelson's No. 1 Harron, 300 ft. out of NE cor. of 327-ac. tract, J. P. Procella Sur. ..... Spudded and S.D. 37 ft.

T. B. Roberts' No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 186-ac. tract, Ramond LaGarza Sur. ..... T.D. 2,660-66 ft.

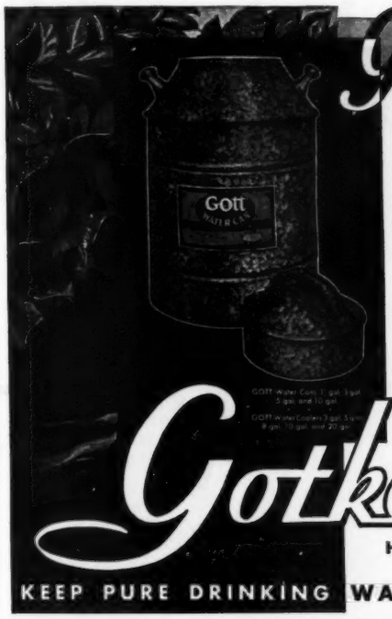
HUNT COUNTY

Branson et al's No. 1 Gray ..... Location.

Russell et al's No. 1 Brooks and Quattlebaum ..... S.D. 1,455 ft.

JASPER COUNTY

Rio Neches Oil Co.'s No. 1 Boykin, 150 ft. from S and E lines of 160-ac. tract, R. Boykin Sur. ..... Rig up.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KAUFMAN COUNTY

Standy Darnell et al's No. 1 Sally Pannill ..... Fishing 1,815 ft.

LAMAR COUNTY

G. W. Davy et al's No. 1 McGustion, 450 ft. from S line, 450 ft. from W line of farm and survey, Galet Wood Sur. ..... S.D. 3,425 ft.

Doyle and Jondeau's No. 1 Martin, 990 ft. from N line and 330 ft. from E line of tract, Joseph Deck Sur. ..... Drlg. 2,280 ft.

Doyle and Jondeau's No. 1 Horn, 226 ft. from S line and 608 ft. from E line of lease, R. P. Mayor Sur. ..... Drlg. 2,490 ft.

LEON COUNTY

Salzer Drlg. Co.'s No. 1 Dr. J. M. Blair, 1,010 ft. from N line, 1,986 ft. from W line, Sec. 19, Blk. E, Lucia Hibbard Sur. ..... Derrick on ground.

MORRIS COUNTY

Leonard's (Tucker-Fullwood) No. 1 P. M. Staggers, 450 ft. from N line and 150 ft. from E line of 65.5-ac. tract, J. D. Nelson Sur. ..... S.D. 3,535 ft.; set csg. 3,506 ft.

Merrill's No. 1 Walcott, 330 ft. from N and E lines of most northerly NE cor. of survey, 3 miles S of Carson, D. A. Russell Sur. ..... Moving in derrick.

Olvey et al's No. 1 Gabriel Silbey, 330 ft. from N line and about 500 ft. from W line of lease, 3½ miles NE of Carson, W. O. Matthews Sur. ..... Derrick.

NACOGDOCHES COUNTY

Adams et al's No. 1 Fuller Brothers, located in a 269-ac. tract, Jose Flores Sur. ..... Location.

Taylor-Vaughn's No. 1 Dixon Greer, 160 ft. from W and 450 ft. from N lines of 60-ac. tract in the M. G. Horrera Sur. ..... S.D. 265 ft.

POLK COUNTY

Sunshine Oil Co.'s No. 1 Brawley, 150 ft. from S line and 250 ft. from E line of W 100 acres of lease, F. Johnson Sur. ..... Derrick.

Taylor et al's No. 1 E. L. Duke, 330 ft. from N and W lines of 23.5-ac. tract, SW cor. of county, Peter J. Manard Sur. ..... Location.

RAINS COUNTY

C. H. Bayliss' No. 1 Ownby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ..... S.D. 4,036 ft.; to drill deeper.

RED RIVER COUNTY

Hoffman and Henson's No. 1 H. H. Lennox, 2,790 ft. W and 300 ft. S of most easterly NE cor. of survey, J. E. Edmondson Sur. ..... S.D. 60 ft.

Concord Oil Co.'s No. 1 J. R. Dellahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ..... S.D. 2,546 ft. (corrected).

ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ..... Set 10-in. csg. 120 ft.

RUSK COUNTY

Brooks Petroleum Co.'s No. 1 Mayfield, Daniel Clark Sur. ..... Top sand 3,622 ft.; waiting on standard rig; would not flow; T.D. 3,702 ft.

Butler and Calhoun's No. 1 C. C. Lowe, 225 ft. from N line and 300 ft. from E line of 85-ac. lease, W. G. Tutt Sur. ..... Derrick.

Byrd-Frost's No. 1 Buckner, J. E. Peyton Sur. ..... T.D. 4,077 ft.; junked; will skid derrick.

Casey Oil Co.'s No. 1 E. B. Alford, center of 3-ac. lease, Isaac Parker Sur. ..... S.D. 2,300 ft.

O. R. Cooper's No. 1 E. E. Moores, center of 1¼-ac. lease, J. B. De Cadena Sur. ..... Swabbing through tubing.

Everts Drilling Co.'s No. 1 Joe Lee, 330 ft. from N line and 400 ft. N and 330 ft. S of SW cor. of J. Crouch Sur. ..... Drlg. 3,796 ft.

Fagin and Salmon's No. 1 Scroggins, 330 ft. from N and W lines of lease, E. Collard Sur. ..... S.D. 535 ft.

R. W. Fair et al's No. 1 J. R. Alford, center of Blk. No. 24, T. J. Moore Sur. ..... Rig up.

Gant-Gerwin and Wegener's No. 1 L. A. Till, 330 ft. from N line and 464 ft. from W and E line of 26-ac. lease and tract, M. V. Pena Sur. ..... S.D. 3,663 ft.; would not flow through tubing; waiting orders.

Gant and Garwin's No. 1 W. P. Moore, 330 ft. S and E of SW cor. of Arkansas, W. P. Moore 40-ac. tract, M. V. Pena Sur. ..... Location.

J. Guinn's No. 1 Neal Cooper, center of Blk. No. 36, T. J. Moore Sur. ..... Derrick.

Harris and Russell's No. 1 T. W. Harris, 330 ft. from S line and 660 ft. from W line of most southerly SW cor. of 160-ac. tract, 3 miles SW of Henderson, W. G. Davis Sur. ..... Derrick.

Hasting and Dodson's No. 1 E. B. Alford, center of Blk. No. 27, T. J. Moore Sur. ..... Derrick.

Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... Waiting on cmt. to set; T.D. 3,519 ft.

Holden-Rodgerson et al's No. 1 Barton and Birdwell, N offset to Reisinger et al's No. 1 Barton, W. G. Tutt Sur. ..... S.D. 3,727 ft.

Hendershot et al's No. 1 Green Washington, 330 ft. from N line and 250 ft. from W line of 11.75-ac. tract, D. Clark Sur. ..... Rig up and S.D.

Holland et al's No. 1 S. E. Brox, 330 ft. from N line and 250 ft. from W line of 30-ac. lease, Thomas Grey Sur. ..... Rig up.

W. F. Hollifield's No. 1 Wylie, 160 ft. from W and E line and 330 ft. from S line of 10-ac. lease, Juan Ximenes Sur. ..... Waiting on cmt. to set 3,563 ft.

Jackson et al's No. 1 D. Florence, 330 ft. from S and E lines of lease, Joe English Sur. ..... Reaming to set csg.; T.D. 3,707 ft.

W. C. Know's No. 1 W. D. Peterson, center of 3.75-ac. tract, Jacob Lewis Sur. ..... S.D. 2,000 ft.

McDonald et al's No. 1 J. H. Stewart, 171 ft. S and 158 ft. W of NW cor. of Humble W. P. Key 25-ac. lease, John Womack Sur. ..... Rig up.

McPhail and Kimbrough's No. 1 E. A. Thrash, 150 ft. from N and W line of 4-ac. lease, Juan Ximenes Sur. ..... T.D. 3,683 ft.

Meyer et al's No. 1 Tom Lacy, 350 ft. from N and W line of N 50 acres of 100-ac. tract, J. N. Sparks Sur. ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 1 Henry Clay estate, 370 ft. from S line and 330 ft. from W line of 43-ac. tract, M. V. Pena Sur. ..... Moving in rig.

Orits Oil Co.'s No. 1 Church, 175 ft. S and 175 ft. E of SE cor. of Sun-Schuler joint lease, J. B. De Cadena Sur. ..... T.D. 3,646 ft.

Pace Petroleum Co.'s No. 1 Wells, W offset to East Texas, W. P. Chisum Sur. ..... Derrick.

Patterson Drilling Co.'s No. 1 W. N. Brightwell, center of 3.4-ac. tract, R. E. Winn Sur. ..... Drlg. 2,200 ft.

Primrose Petroleum Corp.'s No. 1 W. P. Brett, center of N and S lines of lease, F. Cordova Sur. ..... Drlg. 3,520 ft.

J. C. Prine's No. 1 P. G. Warren, 155 ft. from S line and 96 ft. from E line of 44-ac. tract, John Womack Sur. ..... T.D. 3,770 ft.; preparing to deepen.

D. B. Reed and Standard Supply Co.'s No. 1 Church, 121 ft. NE along SE line and 86 ft. NW at right angles, J. B. De Cadena Sur. ..... Drlg. 3,512 ft.

Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. ..... S.D. 3,077 ft.

Sabins et al's No. 1 J. R. Irion, 330 ft. from S and E line of 2-ac. tract, John Womack Sur. ..... Rig up.

H. G. Sampson's No. 1 Goforth, 200 ft. NE along road from most northerly NE cor. of Cloud's lease and 50 ft. S at right angles .....T.D. 3,829 ft.; preparing to comp.
Jay Simmon's No. 1 D. C. Joyner, 2,050 ft. from S line and 300 ft. from W line of 74.11-ac. tract, F. Cordova Sur. .....Derrick.
Sinclair Prairie Oil Co.'s No. 1 Allen Kersh, 878 ft. NE along N line from NW cor. and 330 ft. SE at right angles, E. B. Fowlkes Sur. .....Preparing to spud.
Sinclair Prairie Oil Co.'s No. 1 B. F. Poindexter, 330 ft. from N and E lines of lease, B. F. Poindexter Sur....Bldg. derrick.
W. L. Stearns' No. 1 Negro Church, center of tract, Juan Ximenes Sur. .....Derrick.
Stidham and Thrasher's No. 1 W. P. Keeling, 389 ft. E of Philmack Oil Co.'s No. 1 Keeling, F. Cordova Sur. .....T.D. 3,750 ft.; to complete.
Sun Oil Co.'s No. 1 Ellen Till, 330 ft. from S line and 206 ft. from W line of 126-ac. tract, M. C. Pena Sur. .....Derrick.
Taubert and McKee's No. 1 Tolliver, 150 ft. from W line and E offset to Ward's No. 5 Giles and center of N and S lines of lease, Juan Ximenes Sur. .....T.D. 3,761 ft.
Texas State Oil Co.'s No. 1 R. G. Mason, 171 ft. from N line and 132 ft. from E line of 2½-ac. lease, J. B. De Cadena Sur. .....Moving in rig.
Tex Jersey Oil Co.'s No. 1 Cora Hannah, center of 6-ac. lease, J. B. De Cadena Sur. .....Derrick.
R. H. Vice's No. 1 Neal Cooper, 315 ft. SW along NW line of Cooper tract and 141 ft. SE at right angles, T. J. Moore Sur. .....Bldg. derrick.
Watson and Butler's No. 1 G. W. Tipps, 330 ft. from S line and 600 ft. from W line of 18-ac. lease, H. M. Smith Sur. .....Derrick.
Weaver-Crim's No. 1 F. Bean, 175 ft. from NW line and 212 ft. from S line of 16-ac. lease, Mary Cogswell Sur. .....Waiting on cmt. to set.
Nat Wiseman's No. 1 Thrash, 177 ft. S and 87 ft. E of NW cor. of 62.6-ac. tract and 2½-ac. lease, F. Cordova Sur. .....Derrick.

JOINER POOL—RUSK COUNTY

Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. .....S.D. 1,465 ft.

SAN AUGUSTINE COUNTY

A. H. Jones and Tennant's No. 1 A. P. Davis .....Drlg. 3,843 ft.

SMITH COUNTY

Droppleman & Bunte's No. 1 Atkinson, Calloway Dean Sur. .....Fishing for line and bailer.
Joiner et al's No. 1 C. S. Jackson .....S.D.; swabbed dry 3,985 ft.
J. E. Lucas' No. 1 Henry Jackson, 150 ft. from N and E lines of 25-ac. tract, James Jordan Sur. ....Set surface csg.
R. J. McMurray's No. 1 Frank Cole, 330 ft. from E line of lease and center of N and S lines of N 10.20-ac. lease, E. Daniels Sur. .....Drlg. 1,750 ft.
Quintella McCullough's No. 1 Jessie Cole, 200 ft. from S line and center of E and W lines of 6-ac. lease, J. Jordan Sur. .....S.D. 3,000 ft.
Sun Oil Co.'s No. 1 St. Clair, 330 ft. from N and E lines of 100-ac. tract, Juan Vargus Sur. .....Testing 3,741 ft.
Sutton and Hawkins' No. 1 Church Lot, 210 ft. from S line and 150 ft. from W line of tract, James Jordan Sur. .....Moving in rig.
C. K. West's No. 1 L. S. Sartain, 1,112 ft. from W line and 330 ft. from E line of 76-ac. tract on NE 21-ac. lease of tract, James Jordan Sur. .....Drlg. 1,500 ft.

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. .....T.D. 4,212 ft.

UPSHUR COUNTY

Conservative Oil Co.'s No. 1 E. O'Byrne, 350 ft. from N and E lines of 20-ac. lease, D. Ferguson Sur. .....Bldg. derrick.
Faith Oil Co.'s No. 1 E. H. Brawley, 330 ft. E and W of NE cor. of The Texas Company's J. Williams 93-ac. lease .....Derrick.
Flanigan Production Co.'s No. 1 Whitehurst, 330 ft. from N and E lines of N 30 acres of W 40 acres of 100-ac. tract, McKinney and Williams Sur. .....Testing 3,644 ft.
Grover Hart's No. 1 Allen, 330 ft. from S and E lines of lease, one-half mile W of Mountain, Gonzales Sur. .....Derrick.
Hill Kimsey's No. 1 D. F. Smith, 466 ft. from S line and 1,165 ft. from E line of 266-ac. tract, J. R. Davis Sur. .....Derrick.
Pat Hudson et al's No. 1 D. F. Smith, 330 ft. out of SE cor. of W 100 acres of the N 200 acres of the 272-ac. lease, 3 miles E and 1¼ miles N of Cranfill & Reynolds' No. 1 Rash, John Denson Sur. .....Waiting orders 3,710 ft.
Island Oil Co.'s No. 1 Bonner Estate, 330 ft. from E line and center of N and S lines of lease, James McRae Sur. .....Running csg.; T.D. 3,653 ft.
J. C. McFarland et al's No. 1 Willie Starr, center of S 40 acres of Starr 96-ac. tract, Charles Cooper Sur. .....S.D. 3,523 ft.
Pitts et al's No. 1 H. Davis, center of 7.5-ac. lease, W. R. Stephens Sur. .....Derrick.
Pitts' No. 1 Henrietta Davis, W. R. Stevens Sur., center of 7-ac. tract .....Derrick.
A. A. Trammell et al's No. 1 E. H. Hampton, 330 ft. from S and E line of S 60 acres of E 150 acres of 192-ac tract, William King Sur. .....Top sand 3,686 ft.; S.D. 3,688 ft.
Webster's No. 1 R. H. McClelland, 1,956 ft. E and 335 ft. S of NW cor. of 751-ac. tract, M. P. Del Torres Sur. .....Derrick.
G. L. Wickliffe et al's No. 1 M. E. Florence, center of 41.5-ac. lease, M. Chandler Sur. .....Derrick.

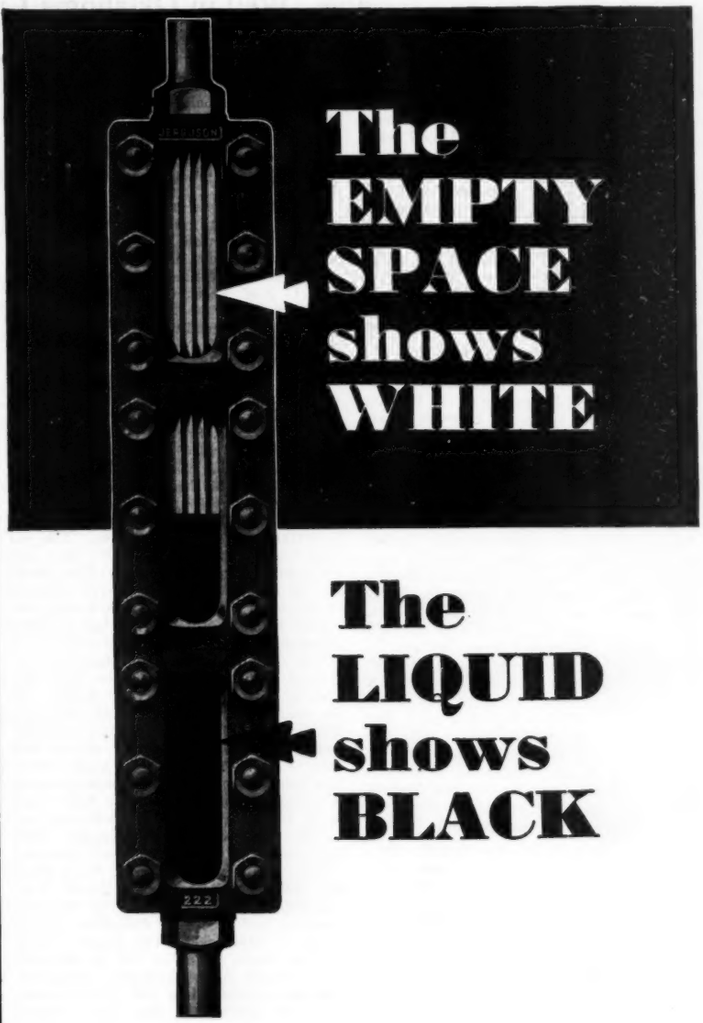
VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 225-ac. tract, 3½ miles S of Canton, M. J. DeCadena Sur. .....S.D. 2,405 ft.
Kelly O. & G. Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. .....S.D. 2,300 ft.
Pure Oil Co.'s No. 1 R. M. Butler, 650 ft. W of E line and 150 ft. S of N line of lease, David Rose Sur. .....Drlg. 2,443 ft.
Pure Oil Co.'s No. 1 N. E. Clark, 150 ft. S of extreme N line and midway between E and W lines, John Walling Sur. .....Drlg. plug 2,887 ft.
Pure Oil Co.'s No. 2 Mrs. C. White, 250 ft. S of N line and 690 ft. E of W line of lease, John Walling Sur. .....Coring 2,884 ft.
Pure Oil Co.'s No. 3 J. F. Crim, 200 ft. W of E line and 250 ft. S of N line of lease, John Walling Sur. .....Cmt. setting 2,865 ft.
Pure Oil Co.'s No. 4 D. R. Howell, 667 ft. S of N line and 650 ft. E of W lines of lease, H. V. Moore Sur. .....Drlg. 2,650 ft.
Pure Oil Co.'s No. 4 A. W. Ellison, 700 ft. S of N line and 225 ft. E of W line of lease, James Rose Sur....Location.
Pure Oil Co.'s No. 5 L. M. Brawner, 200 ft. S of N line and 1,572 ft. W of E line of lease, John Walling Sur. .....Running corners.
Pure Oil Co.'s No. 9 A. R. Tunnell, 644 ft. N of S line and 250 ft. W of E line of lease, John Walling Sur. .....Cmt. setting 2,975 ft.
Van Oil Association's No 1 Tankersley, 300 ft. from E and 1,000 ft. from S of farm, L. Vanders Sur. .....T.D. 2,850 ft.

WOOD COUNTY

Talko Oil Co.'s No. 1 G. T. Ross, B. L. Smith Sur. .....S.D. 2,794 ft.
Wood County Dev. Co.'s No. 1 Davis, approximately 180 ft. from S line of 160-ac. tract and 2¼ miles S of Kantes in Sarah McDonald Sur. .....Moving in rig.

This gage shows in *BLACK* and *WHITE*



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Oklahoma Production Up Temporarily

Producers in Prorated Areas Take Large Part of Allowable. Well in Oklahoma City Shows Enormous Output

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The increase of approximately 57,000 bbls. in Oklahoma's daily average production for the week ending May 7, when the State averaged approximately 456,000 bbls. daily, is believed to be due to the practice of oil operators taking as large a percentage of their allowable as possible the first part of each proration period. Oklahoma City Field accounted for approximately 46,500 bbls. of the increase and the Greater Seminole Field shows an increase of approximately 1,500 bbls. daily, over the previous week.

Pure Oil Co.'s No. 1 Unglesby-Pinkston, SW SE SE NW, Section 1-15-16, Lincoln County, was drilled about seven years ago and completed as a gas well, at a total depth of 3,655 feet, where it made 11,000,000 feet of gas a day. Early in 1931 a seismograph and other geological instruments indicated a Wilcox sand structure. Early this year it was decided to drill deeper. Work was started in April and at 3,705 feet, and in the Wilcox sand, the gas increased to approximately 21,000,000 feet a day and sprayed 10 bbls. of oil an hour. The well was shut in until additional tankage can be erected, and a pipe line connection made. The well is near the Creek County boundary line, northeast of the Stroud Field, which had producers from the Peru, Bartlesville, and Wilcox sand.

Conservative Developments

The development of the Monett area, which has been classified as a south extension to the St. Louis area, in southern Pottawatomie County, is expected to be orderly. It has been agreed by operators with leases in the area that only necessary wells will be drilled. The area was discovered by the Carter Oil Co. and others' No. 1 Monett, SW cor., Section 35-7-4. There are three offsets drilling, and the Magnolia Petroleum Co.'s No. 1 Martin, SE cor. NE SW, Section 34-7-4. The company was forced to drill this location because of a short term lease. It is located about a half mile west and quarter of a mile north of No. 1 Martin. A tentative location has been made by T. G. Kelley and others for No. 1 Green, SW cor. NE, Section 35-7-4.

The Gypsy Oil Co. has taken over the operation of No. 1 Martin, having the majority of the acreage in the section, which was unitized. The Gulf Pipe Line Co. is laying 6 miles of pipe line to the well so it may be tested and given its discovery rights, which will be determined by State Umpire Collins.

Pure Oil Co. and others' No. 1, SE cor., Section 34-7-4, is expected to reach the sand first as it was drilling at 3,640 feet. Other companies drilling offsets to the discovery are Amerada Petroleum Corp. and Indian Territory Illuminating Oil Co.

The discovery well is curtailed to 44 per cent of its potential production and all the rest of the wells will be when completed.

About 4 miles south of this development another wildcat well has been completed in Section 25-6-4. The well was a community project with the following companies joining in unitizing the entire section: Barnsdall Oil Co., Gypsy Oil Co., The Texas Company, Sinclair Prairie Oil Co., and Shell Petroleum Corp. The well is considered an important wildcat as it opens a new producing area in the Greater Seminole district. Geologists are of the opinion that this is a separate pool, and it is believed it has no connection with others in that area of the Greater Seminole district. It found the Simpson sand formation higher than any other well drilling in that section of the State.

Hominy sand is productive in an Osage County wildcat and prospects are considered bright for new development in the area. Peters Petroleum Corp. and Producers & Refiners Corp.'s No. 1 in the C NW Section 24-24-7, found the Hominy sand at 2,730-32 feet, where oil rose 1,500 feet in the hole. The 5-inch casing was being landed on top of the sand before drilling deeper. The well is located northwest of Hominy and on the edge of the naval reserve.

The Cromwell-Paden Oil Co.'s No. 1 Rogers, SE cor. Section 8-12-7, Okfuskee County, was drilled deeper to 2,860 feet, where production was found that is estimated at 100 bbls. a day. The first pay in the well was found at 2,810 feet. At the total depth there was an estimated 5,000,000-foot gas production. The oil sand was only penetrated a few feet, but deepening will be continued. The showing of oil and gas has revived interest in the old Paden area, which was a sensation in 1916 until a number of tests following a successful well proved dry.

The showing of water in the south extension well to the St. Louis Pool has been a blow to the district. Carter Oil Co. and others' No. 1 Monett, SW cor. Section 35-7-4, Pottawatomie County, was opened for a test and flowed 820 bbls. of oil in 17 hours and some water. The hole was bailed down preparatory to shooting. Eight feet of water was found in the bottom and it was then decided not to shoot the well. The operators have been swabbing since it stopped flowing.

Hilton Phillips and others' No. 1 Phillips, SW cor. NW Section 2-14-3, Lincoln County wildcat, found the Simpson dense at 5,056 feet and drilled to a total depth of 5,065 feet. The 5-inch casing will be landed at 5,056 feet to shut off water found in a shallower formation. The hole was standing full of fluid when the crew drilled into the above formation.

Indian Lease Sale

Oil operators paid $7,623.12 for oil and gas leases at the last sale at the office of the superintendent of the Five Civilized Tribes in Muskogee. A total of 1,938 acres were sold for an average of $3.90 per acre. Ninety-six tracts were offered and 36 tracts sold. No bid of less than $1 an acre was accepted. The highest price paid was $37 an acre for 40 acres in NW NE, Section 19-7-8, Fish Pool, Seminole County, by the Winona Oil Co. Other bids ran from $1 to $20 an acre.

Oklahoma City Field

The net overproduction in the Oklahoma City Field was reduced to approximately 42,961 bbls. of oil during the month of April. This amount is considered negligible in view of the fact that most was carried over from last year. Stocks of crude oil increased only 3,759 bbls. to a total of 611,277 bbls. which is considered by many to be less than required as estimated tank bottoms.

There were 866 producing wells in the field with an adjusted potential of 3,573,473 bbls. per day at the beginning of the month. The net allowable for the month of April was 3,036,124 bbls., an average of 101,204 bbls. per day, while the total production was 3,079,085 bbls., an average of 102,636 bbls. per day.

The daily production of the field shows an increase averaging 134,983 bbls. compared to 88,273 bbls. the previous week. The pipe line shipments averaged approximately 101,000 bbls. for the week.

Indian Territory Illuminating Oil Co.'s No. 2 Little, NW cor. NE NE, Section 27-11-3w, made 7,160 bbls. of oil in six hours. The gas was estimated at 101,000,000 feet a day. The total depth of the well is 6,590 feet and the casing was cemented at 6,488 feet. Same company's No. 4 Ivanhoe, SW cor. SE NE, Section 15-11-3w, flowed 862 bbls. of oil in nine hours and the gas was estimated at 22,000,000 feet a day. The total depth of the well is 6,400 feet and the 6-inch casing was landed at 6,351 feet.

Grison Oil Co.'s No. 1 Turner, NW cor. SW NE, Section 34-12-3w, in the north end of the field, was opened Saturday and flowed 4,302 bbls. of oil in one hour, together with considerable sand. On another test the well flowed 3,250 bbls. of oil and 425 bbls. of sand in one hour. The gas from the well is estimated at 70,000,000 feet a day. The 9-inch casing was landed at 6,330 feet and the total depth of the well is 6,530 feet.

Companies with overproduction in the Oklahoma City Field include, Kessler Oil & Gas Co. with one well showing an overproduction of 179,356 bbls.; Champlin Oil & Refining Co., 11 wells, 129,620 bbls.; Continental Oil Co., 12 wells, an overage of 13,453 bbls., and an underage of 1,651 bbls.; Franco-Dominion Oil Co., underproduction of 11,895 bbls.; Indian Territory Illuminating Oil Co., 293 wells, overage of 25,548 bbls., and underage of 154,164 bbls.

A location was made during the week in the north end of the Oklahoma City Field on an abandoned roadway for Algiers Oil & Gas Co.'s No. 1 Provines, SE cor. Section 35-12-3w. Work is expected to start immediately. The acreage is located in the southeast corner of the Wirt Franklin Petroleum Corp.'s Page lease in the same section and adjoins a seven-eighths-acre tract owned by the United States Government. The lease is 90 feet wide and 600 feet long. The new location is offset in all directions by producing wells.

Russell Petroleum Co.'s No. 1 Russell Community, N half SE NE NW Section 22-11-3w, and same operators' No. 2 Russell Community, SE cor. SE NE NW Section 22-11-3w, are new locations announced during the week in the southwest part of the Oklahoma City Field. Derricks will be erected and the 58-day shutdown time taken before the drilling is started.

The umpire's office announces that the total production of oil from the Oklahoma City Field during the month of April was 3,140,310 bbls. compared to 2,967,134 bbls. for March.

The total pipe line shipments from the same field were 3,107,351 bbls. for April compared to 3,197,906 bbls. for March.

The Oklahoma Corporation Commission has extended the time until June 1 for four of the Indian Territory Illuminating Oil Co.'s wells to make up underproduction and get even with the Oklahoma City proration schedule. Failing to make the underproduction will cause the wells to be stricken from the list of underproduced wells. The wells include No. 1 Mount Vernon, No. 1 Holmes-Gray, No. 4 Spillman and No. 1 Magnolia Heights. The same company's wells to be stricken from the underproduction list include No. 1 Banta with 19,567 bbls. of underproduction, No. 1 Foster with 3,742 bbls. of underage and No. 2 Ivanhoe, with 5,520 bbls. of underage.

Seventeen wells were included in the list of wells given May 1, to get even with production, but action has been taken on only three of these wells.

In Stephens County

Stephens County continues active. Five locations were made in the county during the week and three tests completed. Pace's No. 2 Dilley, SW cor. SW NW SW Section 22-2s-7w, swabbed and flowed 133 bbls. of oil in seven hours and was then shut in for tankage. The sand was found at 1,736-45 feet. Same operators' No. 5 Gilworth, NW cor. NW SE NW Section 2-2s-8w, is flowing 80 bbls. a day from sand at 1,550-68 feet. Same operators' No. 8 Houston, SE cor. NE SW Section 2-2s-8w, made 50 bbls. a day on the pump from sand at 1,536-46 feet.

New operations in the area include the following: Pace's No. 10 A. Watkins, NE cor. NE SE SE Section 21-2s-7w, spudding at 200 feet; No. 3 Dilley, NW cor. SW NW SW Section 22-2s-7w, a derrick; No. 4 Allen, SE cor. SE NE Section 3-2s-8w, rigging up; No. 3 Pitts, NE cor. NE SE Section 2-3s-8w, a new location; T. W. Medlin and others' No. 1 Moore, NE cor. NW Section 11-2s-8w, a rig on the ground.

Martial Law Threatened

Martial law was declared to prohibit drilling within the limits of Oklahoma City outside of the U-7 zone. Governor Murray declared martial law over the entire area covered by Oklahoma City, to prevent further extension of oil development within the city limits. The order covers all the area in the city limits which is not included in the U-7 zone, where drilling is permitted by the city ordinance.

In addition, the order extends further to include the territory now in the zone bounded on the north by South Eleventh Street, on the east by the Santa Fe tracks, on the south by the North Canadian River and on the west by Shartel Avenue. No wells are being drilled in the zone covered by the order. Charles F. Barrett, adjutant general, said that some of the wells near this territory have proved to be poor producers and it was included in the martial law order to discourage drilling in that section, because of the fire hazard.

The order directed General Barrett to use the military forces of the State to enforce the order and to prevent further trespass upon the zone.

The governor issued the order after a report by a committee named to make a survey of the city was submitted to him. The committee members signing the report were J. T. Jones, state fire marshall, General Barrett, and C. T. Ingalls.

No action will be taken unless some one violates the provisions of the order, said Barrett. In such event, the national guardsmen will be used. This order is similar to the governor's order against drilling within a mile of the capitol, which was issued a few months ago.

There was a strip left as nondrilling territory to protect property adjoining the zone against oil drainage. The ordinance provides that property owners in the buffer area shall share in the royalties from nearby wells, but that the territory shall be kept free of derricks.

The governor's order mentioned the threatening danger of fire to homes and the business section of the city, and the possible loss of life through the fire hazard. It is also believed the hazard would greatly affect the cost of insurance, if further extensions into the city were made.

Carter County

Schermerhorn-Ardmore Oil Co.'s No. 3 Richards, NE cor. NW SW SE, Section 23-4s-3w, made 5 bbls. of oil from sand at 1,298-1,311 feet, with the total depth 1,369 feet.

Comanche County

Trahan-Wilson's No. 1 Pruitt, NE cor. SW SE, Section 8-1-9w, is a rig.

Creek County

Windsor and others' No. 1 Hinton, SE

cor. NW, Section 25-19-8, is rigging up. Hughes and others' No. 4 Flinchen, SE cor. NW SW, Section 11-19-9, is a rig. Abbott and others' No. 1 Postoak, C NW NW, Section 23-19-9, was spudding. Gled Oil Co.'s No. 1 Boyd, NE cor. NW, Section 29-19-9, was rigging up. Dean and others' No. 1 Nance, C NE SW, Section 30-19-9, was spudding. Michigan and others' No. 1 Doty, NW cor. SE, Section 1-18-7, was spudding. Swift and others' No. 2 Nichols, NE cor. SW, Section 1-18-8, was spudding. Kemp and Munnalee's No. 1 Benson, NW cor., Section 31-17-7, was rigging up. Smith and Wilson's No. 1 unknown, SW cor. NE, Section 27-16-9, is a rig. Deep Rock Oil & Refining Co.'s No. 1 A. Warnarkee, NE cor. NW SW, Section 25-15-8, is a machine. H. L. Wirick and others' No. 1 Porter, SE cor. NE, Section 34-14-10, is a rig. S. A. Simons and others' No. 2 Lunsford, CEL NE NW, Section 21-14-10, is spudding.

Gled Oil Co.'s No. 8 Carter, SW cor. SE, Section 20-19-9, made 115 bbls. after a 180-quart shot from sand 2,143-81 feet. Magnolia Petroleum Co.'s No. 18 Musselman, NW cor. SW NW NE, Section 8-18-7, was plugged back to 2,346 feet from a total depth of 2,439 feet. It pumped 4 bbls. Billingslea and others' No. 17 Lea, C SE SE, Section 12-18-11, got water in the Turkey Mountain sand at 2,317-52 feet and is plugged. Kresne Brothers' No. 3 Harry, SE cor. SW SE, Section 4-17-11, was dry in the Dutcher at 1,835-49 feet and was abandoned.

Garvin County

Malarnee Oil Co.'s No. 1 Phillips, NE cor. SW, Section 24-2-2w, was dry in sand at 2,438-42 feet and was abandoned at a total depth of 4,820 feet.

Pawnee County

Young and others' No. 1 Purcell, C NE NW, Section 34-21-8, is a machine. Peter Adamson's No. 1 A. Peoples, SW cor. NW, Section 3-20-8, pumped 4 bbls. after a 40-quart shot in sand at 1,563-71 feet.

Payne County

Amerada Petroleum Corp.'s No. 1 Peney, SW cor. NW SE, Section 25-19-4, is a rig on the ground.

Pontotoc County

Patsey Oil Co. has a new location for No. 1 Burke, SE cor. NE SE, Section 25-5-4. Fleetborn's No. 2 Brown, NE cor. SE NE, Section 28-5-6, is a rig. Delany and others' No. 1 A. King, NW cor. SE, Section 32-5-8, is drilling at 280 feet. Vanderslice and others' No. 1 Maredith, NE cor. SW, Section 17-2-4, was spudding. Indian Territory Illuminating Oil Co.'s No. 1 Bennett, NE cor. SW, Section 33-5-5, was plugged from a total depth of 2,920 feet to 1,810-20 feet where it pumped 30 bbls. Meyers and others' No. 2 Merrean, SE cor., Section 21-5-6, pumped 100 bbls. from sand at 1,690-1,737 feet.

Pottawatomie County

Taylor and others' No. 1 Brown, SW cor. NW, Section 36-7-4, is a rig. Papoose Oil Co.'s No. 1 Harn, NW cor., Section 24-6-3, is a location. Magnolia Petroleum Co.'s No. 1 School land, NE cor. NW, Section 36-6-4, is a rig.

Marshall County

Collins and others' No. 1 McDuffie, NE cor. SE NW, Section 3-7s-6, is a machine. Starrett and others' No. 1 Henry, NE cor. SW, Section 22-7s-6, was abandoned at 851 feet. Neff and others' No. 4 Coatsworth, C SE SE SE, Section 30-5s-6, was dry in sand at 512-16, feet and was plugged at a total depth of 675 feet.

Oklahoma County

Indian Territory Illuminating Oil Co.'s No. 8 M.K.&T., NW cor. SW SW, Section 35-12-3w, is a rig. Phillips Petroleum Co.'s No. 1 Bump, SE cor. SW NE, Section 3-11-3w, was drilling at 400 feet. Same company's No. 1 Calkins, SW cor. NW NE, Section 3-11-3w, was a cellar. Same company's No. 1 Gentry, NW cor. SW NE, Section 3-11-3w, is a rig. Harper-Turner's No. 1 Harrison, NE cor. SE, Section 22-11-3w, is a rig. Same operators' No. 1 Knapp, NW cor. SW, Section 22-11-3w, is a rig. Skelly Oil Co.'s No. 1 Moon, NW cor. SW NE, Section 22-11-3w, is a rig. Slick and others' No. 4 Frisco, NW cor. SE, Section 3-11-3w, flowed 1,953 bbls. in 3⅞ hours, from sand at 6,273-6,375 feet. Same operators' No. 8 Classen-Edwards, in Section 3-11-3w, made 1,029 bbls. in 4 hours from sand 6,425-85 feet. Same operators' No. 9 Classen-Edwards, in Section 3-11-3w, flowed 152 bbls. in 3⅞ hours from sand at 6,436-97 feet. Eason Oil Co.'s No. 1 Smith, in Section 15-11-3w, made 3,282 bbls. of oil from sand at 6,375-6,526 feet, in 4 hours.

Okmulgee County

D. Dulaney and others' No. 1 Larney, SE cor. NW NW, Section 28-15-14, is a rig. Amerada Petroleum Corp.'s No. 1 unknown, SW cor. SE, Section 12-14-12, is a rig. W. B. Coyle and others' No. 3 Sutton, C SW SW, Section 33-14-14, is an old well drilling deeper at 1,265 feet. Kingsmith and others' No. 4 Grayson, CNL SE NW, Section 35-16-11, made 35 bbls. of oil after a 40-quart shot at 1,794-1,825 feet. Eggis Drilling Co.'s No. 1 Tichama, CNL SE NE, Section 13-16-13, made 25 bbls. from sand at 1,493-1,512 feet after a 60-quart shot. La Beane and others' No. 7 Hill, C NE SW, Section 23-15-11, lost the hole at 1,875 feet and was abandoned.

Seminole County

Empire Oil & Refining Co.'s No. 4 Fish (D), NW cor. SE SE, Section 19-7-8, is a rig. Same operator's No. 3 Fish, NE cor. SW SE, Section 19-7-8, flowed 884 bbls. in 14 hours from pay at 3,-022-3,102 feet. Fred Coogan's No. 1 Moran, NE cor. SW, Section 30-7-8, was abandoned as a dry hole at 3,186 feet.

Stephens County

Pace and others' No. 4 Allen, SE cor. NE, Section 3-2-8w, is a rig. Chamberlan and others' No. 1 Parker, NE cor. SE SE, Section 11-2-8w, was drilling at 60 feet. Pace and others' No. 10 Watkins, NE cor. SE SE, Section 21-2-7w, is a rig. R.C.R. Oil Co.'s No. 1 Green, C SE SW SW, Section 35-2-9w, was abandoned at 20 feet. Vanderslice and others' No. 1 Kahn, NE cor. NW, Section 20-2-4w, was dry at 440 feet, and plugged. Pace and others' No. 4 Gilworth, NW cor. SE NW, Section 2-2-8w, was completed for 20 bbls. from sand at 1,453-58 feet, with the total depth at 1,575 feet. Same operators' No. 2 Dilly, SW cor. NW SW, Section 22-2-7w, made 200 bbls. from pay at 1,793-43 feet.

Tulsa County

French Petroleum Co.'s No. 1 A. Flarney, CNL SW NW, Section 30-20-14, pumped 5 bbls. from Red Fork sand at 750-85 feet after a 180-quart shot.

Wagoner County

Sheridan Oil Co.'s No. 2 Snake, CSL SE NW, Section 26-18-15, was drilling at 500 feet. La Piere and others' No. 1 Bird, C SW NE, Section 27-18-15, was dry at 1,119-25 feet and was plugged at a total depth of 1,160 feet. Hamstead and others' No. 1 Lowery, SE cor. SW, Section 33-16-16, found water at 1,890-1,905 feet and was plugged at 1,920 feet.

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location— Remarks:

Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w ..... S.D. 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w.. S.D. 5,502 ft.

BECKHAM COUNTY

Pattel Royalty's No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w ..... Rig.
Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w.. T.D. 2,344 ft.; plugged back to 1,890-1,900 ft.; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w.. Waiting on cmt. to set 430 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-22-22w ..... S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w ..... S.D. 3,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w ..... S.D. 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w ..... S.D. 1,115 ft.

CHEROKEE COUNTY

La Piere et al's No. 1 Woods, C SE SE Sec. 27-17-21 .... S.D. 1,504 ft.

COAL COUNTY

Radial Oil Co.'s No. 1 McGraw, NE NW Sec. 2-1s-8 ..... S.D. 1,450 ft.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8 ..... Show wtr. at 1,155-60 ft.; 1,845 ft.; abnd.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w..... S.D. 1,450 ft.

CREEK COUNTY

R. F. Moore et al's No. 1 Gilliam, NE cor. SW NW, Sec. 17-17-8 ..... S.O. 2,815-39 ft.; shot 160 qts.; swab 72 bbls. 24 hrs.; pumped 30 bbls. 3 hrs. comp.

CUSTER COUNTY

Miley Pet. Co.'s No. 1 Caldwell, NE Sec. 12-14-14w ..... Location.

GRADY COUNTY

Carter Oil Co.'s No. 1 Carson, C SE SE SE, Sec. 12-3-8w. Rig.
Schoonmaker et al's No. 1 Station, NW cor. 35-4-6w..... S.D. 40 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w.. S.D. 5,850 ft.

GARVIN COUNTY

Malarnee et al's No. 1 Phillips, NE SW SE Sec. 24-2-2w.. S.D. 4,830 ft.

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor. Sec. 1-7-22w..... 5,000,000 ft. gas 1,455-65 ft.; T.D. 1,760 ft.
Frei.ch's No. 1 Murphy, SW NW Sec. 23-7-21w..... S.D. 1,645 ft.

HASKELL COUNTY

Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19 ..... S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW Sec. 25-19-9 ..... S.D. 200 ft.

KAY COUNTY

Bluebaugh et al's No. 1 Indian, C NW NE Sec. 30-25-1... S.D. 2,026 ft.
Harris & Haun's No. 1 Watson, SW NW Sec. 28-28-1w ..3,630-37 ft.; pump 50 bbls. 24 hrs. comp.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1 ..... Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2 ..... S.D. 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w ..... Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE Sec. 8-7-18w..... Drlg. 940 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE Sec. 16-6-19 ..... S.D. 1,542 ft.

LINCOLN COUNTY

Sovereign Oil's No. 1 Selakek, NE SE Sec. 2-12-5 ..... Drlg. 4,380 ft.
Hilton Phillips' No. 1 Phillips, SW NW Sec. 2-14-3 ..... Show oil and wtr.; drlg. 5,053 ft.
Mote et al's No. 1 School Land, NW cor. Sec. 36-17-5 ... S.D. 3,050 ft.

NOBLE COUNTY

Wentz Oil's No. 1 Wolff, C SE NW Sec. 17-20-2w..... R.O.G.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w ..... S.D. 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w ..... S.D. 5,515 ft.

PAWNEE COUNTY

Rookstool's No. 1 Wylie, NW NE SW Sec. 6-20-5 ..... S.D. 1,950 ft.

PITTSBURG COUNTY

Ruby Ann Oil Co.'s No. 1 George, CEL NW SE Sec. 3-4-16 ..... S.D. 975 ft.
Tape Oil Co.'s No. 1 Fulton, SE Sec. 34-7-14 ..... S.D. 1,700 ft.
J. Morrison's No. 1 Fowler, NE SE Sec. 13-7-17 ..... Rig.
C. Kennedy's No. 1 Travis, C SW NE Sec. 15-7-14 ..... Rig.
C. Canady's No. 1 Jones, NW cor. Sec. 14-3-14 ..... Rig.

PONTOTOC COUNTY

Gilbert's No. 1 Neal, SW cor. Sec. 9-2-4 ..... Viola 700-01 ft.; T.D. 757 ft.; dry and abnd.

POTTAWATOMIE COUNTY

Clara Oil & Gas Co.'s No. 1 Unknown, SW NW NE, Sec. 1-9-4 ..... Drlg. 4,250 ft.
Barnsdall et al's No. 1 Gray, NE SW Sec. 25-6-4 ..... 3,484-90 ft.; 135 bbls. hr.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-12-34w..... S.D. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w..... S.D. 3,420 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Wolfe, NE SW Sec. 23-9-17w ..... Rig.
Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-8-19w ..... Show oil 2,459-67 ft.; S.D. 2,757 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... Drlg. 1,525 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-1S ..T.D. 4,720 ft.; to cement.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Morris et al's No. 1 Ray, NE NW NE Sec. 8-2S-12 ..... Drlg. 250 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 18-3s-10 ..... S.D. 1,720 ft.
Lundy's No. 1 Spraggins, C NE NW SW Sec. 8-1s-2w .... Drlg. 3,140 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE Sec. 18-4s-8w..... Location.

MARSHALL COUNTY

Trailkill et al's No. 1 Spence, NE NW Sec. 10-7s-6..... Rig.
Liggett et al's No. 1 McDuffee, SE NE Sec. 3-7s-6 ..... Drlg. 790 ft.
Starrett et al's No. 1 Henry, NE NW Sec. 22-7s-6 ..... S.D. 750 ft.
Everett et al's No. 1 Agres, SE NE Sec. 14-7s-6 ..... S.D. 1,170 ft.
Newman et al's No. 1 Henry, NW cor. Sec. 22-7s-6 ..... Rig abnd.

McCURTAIN COUNTY

Prassell et al's No. 1 Wagoner, SE NE Sec. 5-8s-27 ..... 560 ft.; show oil, testing.
Stampfs et al's No. 1 Harris, SW NW SW Sec. 14-9s-25. S.D. 2,731 ft.
Stewart's No. 1 Patterson, C SE SE Sec. 7-6s-24 ..... S.D. 1,411 ft.

PUSHMATAHA COUNTY

Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-18 ..... Drlg. 1,520 ft.

STEPHENS COUNTY

George's No. 1 Ryan, NW SW NE Sec. 31-3-15 ..... S.D. 510 ft.

TIOGA COUNTY FIELD REPORTS NEW GASSERS

By Special Correspondent

CORNING, N. Y., May 7. — Michael H. Cahill, representing New York people who are largely interested in the Rathbone gas field in Steuben County, states his belief that if the shallow gassers completed in the Rathbone area are properly handled by production men the field will pay profits. There are 16 completed wells in the field at this time, none of them below 1,250 feet in depth. There have been no failures, and Mr. Cahill is of the opinion that the structure is a "perfect" one on which few if any failures will be drilled.

The Allegany Gas Co.'s recently completed well on the Jesse Smith farm in Lawrence Township, Tioga County, Pennsylvania, was last reported as a 6,000,-000-foot gasser. It was feared for a while that the well was not a commercial producer. It made 350,000 feet of gas per day at 5 feet in the sand. At 9½ feet in it advanced to 3,500,000 feet. At 11 feet in it increased to 6,000,000 feet.

The Penn United Gas Co.'s well on the Fletcher farm is a 3,000,000-foot gasser, total depth thus far, 4,051 feet. The North Branch Development Co. has shut in its well on the Colegrove farm in Lawrence Township after it tested 4,000,000 feet in a day.

Second Good Producer at Iowa Dome

Extension of Recently Opened Cap Rock Pool at East Hackberry. Good Wells Completed at Pierce Junction and Lake Barre

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., May 9.—The bringing in of a second good producer at Iowa, on the Calcasieu-Jefferson Davis Parish line, the extension of the recently opened cap rock pool on the East Hackberry Dome, Cameron Parish, and the completion of good wells at Pierce Junction Harris County, and at Lake Barre, Terrebonne Parish, were among the principal developments in field work on the Gulf Coast during the week. The increasing activity on the coast which has been felt for the last month also became more pronounced with the starting up of many new operations generally and particularly at East Hackberry where a new drilling play is under way.

At Iowa, Shell Petroleum Corp.'s No. 2 Heyd, 225 feet south and 225 feet west out of the NE cor., Section 13-9s-7w, has been completed after a delay of several weeks waiting on a special string of tapered tubing. This well, in sand at 6,974-84 feet with 24 feet 11 inches of 5-inch screen in the hole, came in flowing at the rate of 20 bbls. hourly through a twenty-six-sixty-fourth-inch choke, registering a pressure of 2,000 pounds on the casing and 800 pounds on the tubing. It now is flowing approximately 550 bbls. daily, the oil being around 42 degrees.

Promising Field

This well is a direct south offset to Magnolia Petroleum Co.'s No. 1 Wait, discovery well of the field, which was completed last October flowing 1,000 bbls. daily through a three-eighths-inch choke and which since has been held to below 200 bbls. daily. The latter is in the sand at 6,958-71 feet. These are the only two wells which have been completed in the field, a geophysically discovered salt dome prospect. A third test, Shell Petroleum Corp.'s No. 1 Fontenot, an east offset to the discovery well, also is on the sand where it is standing cemented. The latter is particularly promising having encountered the sand 90 feet higher than in the discovery well and is in the pay at 6,895-6,907 feet.

Iowa is one of the most promising of the newer fields and in addition to the present 6,900-foot sand, there is a producing horizon at 5,000 feet. The discovery well first was completed in that shallower sand but proved short-lived there. It experienced considerable trouble with gas pressure from that sand, and then was deepened to the lower sand. The Shell wells made no effort to test the 5,000-foot sand, casing it off, and drilled directly to the 6,900-foot level to meet offset requirements.

Lake Barre

At Lake Barre, Terrebonne Parish, The Texas Company's No. 9 State-Lake Barre, formerly completed in March, 1931, as a 360-bbl. well at 3,827 feet, was deepened to 3,848 feet, where it has just been completed a second time flowing 2,350 bbls. daily, 498 pounds pressure, through a nine-sixteenths inch choke. This dome has proved one of the most prolific producers on the Louisiana Coast with a series of good wells having been completed on it. It is one of a group of domes in the marshes of Terrebonne Parish being developed by The Texas Company on a working arrangement with the Louisiana Land & Exploration Co.

Pierce Junction

Pure Oil Co. and Moody Corp. jointly completed a good well in their No. 1 Herman, located on the southwest flank of the Pierce Junction Dome. This is the first well drilled in that area in a couple of years and marks a small extension. In a sand at 4,518-59 feet with 44 feet of 4¾-inch screen in the hole, it came in flowing 93 bbls. of pipe line oil hourly for the first six hours on a three-eighths inch choke but began increasing materially and was cut back to a five-sixteenths inch choke, through which it has been flowing approximately 775 bbls. daily with pressure of 330 pounds. Rio Bravo Oil Co.'s No. 24-A Settegast, west flank of Pierce Junction, set 22 feet of screen at 4,409 feet and swabbed salt water. It is to be deepened.

East Hackberry

The completion within the past two weeks of a series of good wells in the newly opened cap rock pool on the East Hackberry Dome and the increasing amount of new work being undertaken there in development of the shallow production have attracted considerable attention to the field. This is one of a succession of plays which have been experienced there since first production was established late in 1927. The present play is the first in the cap, a porous lime rock, encountered at 2,700-2,900 feet. Additional shallow production at approximately the same depth previously has been developed in two different pools located on top of the dome, the nearest being some 1,500 feet to the northeast of the cap rock play.

First production at East Hackberry was in flank sands along the south side. More recently, within the last two months, a wildcat on the extreme northwest side of the dome, opened a deep flank sand there at 6,000 feet. That well, Union Sulphur Co.'s No. 1 Gulf land (Humble lease), has established an unusual record and still is producing steadily around 1,500 bbls. daily. A second test (Union Sulphur Co.'s No. 1 Gulf Land, Pure lease) is drilling on the northwest flank. It is a little farther out from the dome and so far has not picked up the sand although down around 6,700 feet. On the southeast side of the dome, The Texas Company is preparing to resume development of its state leases in Calcasieu Lake and is dredging canal to location for its No. 9 State. One well was completed there about two years ago but after drilling seven additional tests without getting anything, development was suspended some months ago. The first well still is producing better than 100 bbls. daily.

The new cap rock pool at East Hackberry was opened during March by Calcasieu Oil Co.'s No. 1 Unsurveyed Island, which flowed initially at the rate of 2,000 bbls. daily. Four additional wells have been brought in in that particular area while a half dozen new tests are drilling or getting started. The play is following Kelso Bayou, where drilling by Yount Lee Oil Co. in the narrow state lease necessitates offsetting on both sides.

Rabbs Ridge

Four new locations also were made at Rabbs Ridge, Fort Bend County, one of the newer fields, which will be a year-old late this month. All are to be extension tests in an effort of the operators to determine the limits of the producing area. An extension of the field on the extreme north end is seen in the picking up of the pay horizon by Gulf Production Co. and Humble Oil & Refining Co.'s No. 2 T. R. Booth. Present total depth of this hole is 5,002 feet with 7-inch casing at 4,972 feet. Four rigs have been running in the field, which is owned jointly by the above two companies. A third entrant to the area is The Texas Company, which is rigging up for No. 1 Wolters, nearly a half mile north of the field, location for which was reported several weeks ago. On the extreme south end of the present productive area, Humble Oil & Refining Co. and Gulf Production Co.'s No. 1 Hampil, trustee, originally completed last December at 5,412 feet, was plugged to 5,383 feet and brought back in flowing 300 bbls. of fluid, 105 bbls. net oil, through a three-eighths-inch choke.

Montgomery County

The Conroe district of Montgomery County still seems to be marking time pending developments in drilling tests now under way, with interest at this time centered in Strake Oil Corp.'s No. 2 South Texas Development Co., 2,200 feet to the south of No. 1, the discovery well. The second test has had a succession of showings of oil and gas from 3,967 feet to the latest reported depth at 4,288 feet. A series of drill stem tests has been made, the last being at 4,235-88 feet in which a return was made in one minute showing gas with high pressure, the pressure, however, not being gauged. This test is reported running considerably higher than the discovery well.

Wilson Oil Co.'s No. 2 Lieberman, originally started and known more commonly as the Kelley-Baker test, located west of Conroe and some 6 miles to the northwest of the Strake operations, has resumed drilling and is reported down below 4,945 feet. This test has been reported in a formation showing oil and gas. Late in the week, Heep Oil Corp.'s No. 1 Freeman, a quarter mile east of this company's No. 1 Cartwright, recently completed as a wet gas well in the John Davis Survey, east of the Strake block, was reported drilling below 3,000 feet. This company also has started drilling in No. 1 Roberts, William H. Harrison Survey. Two new locations were made during the week, one by the Alpha Oil Co. on the Conroe block, just north of the Strake block in the A. McCown Survey, and the other by Smith & McDaniel in the south 1,500 acres of the Sealey block in the J. C. Pitts Survey northeast of Conroe.

Matagorda County

After eight attempts to make a drill stem test of a deep sand at 7,838 feet, United North & South Development Co.'s No. 1 Stoddard, rank wildcat adjoining the Buckeye Townsite in the J. C. Keller Survey, Matagorda County, is preparing to make a screen setting in the sand. If a well is made this will be the deepest production on the Gulf Coast as well as being a new field.

Victoria County

The Texas Company still is fighting heavy gas pressure in its No. 4 McFaddin, John M. Rine Survey, in the McFaddin district of southwestern Victoria County. The well blew out a month ago while drilling at 2,840 feet and although derrick and rig have been repaired operators never have been able to resume drilling because of the pressure and have been kept busy pumping most everything possible into the hole to hold it. Development in the district has been marked by the encountering of numerous high pressure gas sands. The Texas Company's No. 3 McFaddin, 2,800 feet due south of No. 4, was completed last January as an oil producer from a deep sand.

T. B. Slick, estate's No. 2 McFaddin, 3 miles to the north of The Texas Company's block, also has encountered a series of gas sands, the latest of which is one at 4,070-96 feet, where a drill stem test in five minutes showed 500 pounds pressure. These operators' No. 1 McFaddin, 3,500 feet to the southeast, was completed as a dry gas well in sand at 3,500 feet. The second well is drilling

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GULF COAST FIELDS AND WILDCATS

Week Ending May 7

RACCOON BEND—AUSTIN COUNTY

Company, farm and location—	Remarks:
Humble O. & R. Co.'s No. 2 McCasland, Wm. C. White Sur., 600 ft. southeasterly along SW line from NW cor. thence 200 ft. northeasterly at right angles	Location.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 9 Wisdom, S 45 deg. 312 ft. from NE cor. Lot C, Blk. 62, A. Darst Sur., and thence S 45 deg. 325 ft. in Lot A	Coring sandy shale showing oil 4,105 ft.

BARBERS HILL—CHAMBERS COUNTY

R. E. Ferrell's No. 2 Wilburn, Henry Griffith League, 215 ft. W of No. 1 in center of 45-acre tract	T.D. 2,476 ft.; sidetracked 1,875 ft.; and drlg rock 1,900 ft.
Gulf Prod. Co.'s No. 8 Wilburn, Henry Griffith League, W of No. 7	Drlg. hard shale 3,993 ft.
Humble Oil & Ref. Co.'s No. 1 Kirby, Henry Griffith League, 520 ft. N along E line from SE cor. of tract, thence 75 ft. W at right angles, thence 75 ft. N at right angles	Location.
McAlbert Oil Co.'s No. 2-B Higgins, Wm. Hodges Sur., 265 ft. from N line and 50 ft. from W line of tract	Drlg. sand and shale 3,250 ft.
Mills Bennett Prod. Co.'s No. 1-B Gulf fee, Wm. Bloodgood Sur., 500 ft. E and 50 ft. N of SW cor. of "B" lease	Drlg. salt 5,495 ft; top of salt 1,706 ft.
Mills Bennett Prod. Co.'s No. 4-A E. W. Barber, Henry Griffith League, 300 ft. W of No. 3-A, 50 ft. N of S line	Location.
Mills Bennett Prod. Co.'s No. 3 J. C. Means, Henry Griffith Sur., 300 ft. W of No. 2 in center of strip	Sand showing oil 4,412-45 ft.; cmtd. 9⅝-in. csg. 4,405 ft.
Rio Bravo Oil Co.'s No. 3 Fisher, Wm. Bloodgood Sur., 300 ft. E and 33 ft. S of NW cor. of tract	Fighting cavity 4,106 ft.
Sinclair Oil & Gas Co.'s No. 13 Wilburn, Wm. Hodges Sur., 150 ft. W of No. 10 and 50 ft. N of S line	Drlg. shale 3,310 ft.
Sun Oil Co.'s No. 7 Chambers (W.O.), Wm. Bloodgood Sur.	Drlg. sand and shale 5,025 ft.
Sun Oil Co.'s No. 14 J. Wilburn, Henry Hodges Sur., 150 ft. W of No. 12 and 50 ft. from N line	Drlg. salt 2,246 ft.; top of salt 1,462 ft.
The Texas Company's No. 4 Wilburn (D.D.), Henry Griffith League	Pulling screen 5,139 ft.
Texas Gulf Producing Co.'s No. 7-A Barber, Henry Griffith League, 712 ft. from W line and 225 ft. from N line of tract	Drlg. salt 5,146 ft.; top of salt 2,920 ft.
Texas Gulf Prod. Co.'s No. 3 Ilfrey, Henry Griffith League, 360 ft. W of No. 2 in center of tract	Drlg. lime 1,053 ft.

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New Curtailment Effort in California

Meetings Being Held to Consider Dual Price Structure That Will Offset Defeat of Sharkey Bill. Gas Law Remains in Effect

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., May 7.—The decisive defeat of the Sharkey oil control bill at the special election May 3, removed any hope of effecting a permanent stability in California by compulsory regulation of production and the industry is therefore faced with the necessity of initiating immediate action if any semblance of a price structure is to be maintained. A number of meetings have been held during the past several days in an effort to formulate some method of coping with the present situation and something tangible is expected to be worked out shortly. Considerable friction has developed and it will be at least several days before one can determine whether there is any unanimity of opinion as to the projected plans now under consideration.

Major marketers are making a determined effort to work out a definite plan whereby the existing price structure may at least be maintained in case subsequent developments prevent a slight upward revision in both crude and refined oils. The overwhelming defeat of the Sharkey bill has created a condition of uncertainty as to the future status of the oil industry in California, particularly during the next several months. This anxiety is due to a general breakdown in the co-operative curtailment program since the first of the year and a further schism since defeat of the Sharkey bill. Several of the committees which have been in almost continuous session during the past week have been discussing the feasibility of a dual price structure for crude oil and a drastic change in curtailment work.

Dual Price Structure

It has been proposed to lift curtailment obligations on small wells but to maintain a severe curtailment against large flowing wells in flush fields. This appears to be the only hope of reviving the curtailment program, which, with the exception of major companies and some of the independent progressive producers, has ceased to exist. Under the dual price structure for crude oil, which has received serious consideration during the past few days, producers adhering to curtailment obligations would receive additional compensation. This is just a proposal and the issue has consequently not yet been definitely settled. If adopted, it will substantially increase the effectiveness of the Oil Producers Sales Agency, as under the tentative plans this organization will be charged with the obligation of keeping its members in line as far as curtailment is concerned, for which it will receive a higher price for crude oil.

It is rather hazardous to venture an opinion as to probable developments during the next few months, but it seems logical to assume that major companies will attempt to maintain existing prices until after the summer season is over, if this is at all possible. Unless production declines, or the curtailment program is rejuvenated in the meantime, marketers may be obliged to take drastic measures. The ability of major companies to maintain existing price schedules or effect an upward revision depends primarily upon the amount of gasoline sold at cut-rate prices in Pacific Coast territory. This has not yet become a disturbing factor but the number of cut-rate signs has shown a substantial increase during the past few weeks. The Standard, which has adopted a policy of "competitive prices," has not yet lowered the posted price for its third structure gasoline but may be obliged to do so if price cutters make any further serious inroads in current sales.

Gas Conservation Law

The California gas conservation law is still on the statute books despite the voiding of the Sharkey bill, and this measure may afford marketers a certain amount of relief during the next several months. Future enforcement of this regulatory legislation will restrict the production of flush fields and thus reduce state production of crude, but it is not applicable in settled fields or in areas where there is no physical waste of natural gas. The refusal of voters to ratify the Sharkey bill may have a decided effect on the future status of the gas conservation law as far as the position of the State is concerned with respect to the institution of new suits to prevent waste. There is no question, of course, as to the validity of the gas conservation law in view of the decisive opinion rendered last year by the U. S. Supreme Court, but at the same time the state administration might deem it advisable to be less diligent in the prosecution of further suits under this law and more lenient as to the difference between reasonable and unreasonable waste. There is at the same time a possibility that the State, in an effort to assist the industry, may proceed to enforce the gas conservation law in the Santa Fe Springs and Long Beach Fields based on the correlative rights of all operators in a common pool. By the institution of such suits, predicated on the cubical contents of oil and gas in each productive horizon, current production would be substantially reduced due to overproduction of oil and gas in the past.

Governor's Statement

Governor Rolph, in a statement issued a few days ago, called upon leaders of the fight against the Sharkey bill to formulate and present a measure "to safeguard the interests of the State of California in the production of oil and natural gas." Governor Rolph, recalling that he had favored the passage of the Sharkey bill, stated that "as governor of the State of California I am vitally interested in protecting its resources and in encouraging its industries. The method by which this is accomplished is immaterial. The citizens who opposed the Sharkey bill were guided in their opposition by what they deemed was for the best interests of the State and I therefore congratulate them on their success. However, as all agree that the natural gas and oil resources should be conserved and their production regulated, I hope the citizens who successfully opposed the Sharkey bill will submit a plan that will be so fair and equitable that the former proponents and opponents in the recent campaign may join in its support."

Shipments to East Coast

Future prices along the Atlantic Seaboard and the ability of eastern markets to absorb a limited quantity of California gasoline may have a decided effect on Pacific Coast conditions during the next several months. Intercoastal shipments of gasoline from California to eastern domestic ports are substantially below the amount lifted up to the same time last year and it appears probable that total domestic shipments of gasoline for the current year will likewise be below the aggregate amount shipped to the East Coast during 1931. Export shipments of fuel oil, Diesel and gas oil and gasoline to foreign ports are likewise substantially below the total amount lifted up to this time last year. If California marketers are enabled to increase present commitments to the Atlantic Seaboard they should be able to weather the storm during the next several months. During the past few days several shipments of gasoline were lifted in California consigned to both foreign and domestic ports. The Standard Oil Co. loaded the tankers, Sun Oil and Southern Sun, with 117,000 bbls. and 116,000 bbls. of gasoline respectively, consigned to the Sun Oil Co. at Philadelphia. The Dutch tanker Malvina picked up 95,000 bbls. of gasoline at the Shell terminal in Los Angeles harbor for delivery in the United Kingdom and the Norwegian tanker Finnanger loaded 105,700 bbls. of gasoline at the General Petroleum docks destined for Nagasaki, Japan. The Swedish tanker Svealborg loaded 110,000 bbls. of gasoline at the Union Oil Co.'s terminal destined for Avonmouth, for which point it departed yesterday. During the next few days The Texas Company will load the Norwegian tanker New Zealand for Australasian ports and the Richfield Oil Co.'s tanker Tamiahua will lift a cargo of gasoline consigned to North Atlantic ports.

Daily Potential

California's potential daily production for May was set at 1,061,700 bbls., an increase of 2,670 bbls. over the April potential of 1,059,030 bbls. per day. San Joaquin Valley fields were increased 1,650 bbls. per day and the potential of fields in the coastal region stepped up 1,735 bbls. per day. The potential of Los Angeles Basin fields was decreased 715 bbls. per day, the potential dropping from 400,465 bbls. to 399,750 bbls. per day. There was no great changes made in any of the various fields throughout the State, although the general tendency was toward the establishment of lower potentials. West Coyote was increased from 12,355 bbls. per day in April to 16,625 bbls. per day in May. The potential daily production of Playa Del Rey and Santa Fe Springs was reduced from 23,000 bbls. and 98,700 bbls. per day to 21,685 bbls. and 96,400 bbls. per day respectively. The potential daily production of the Fruitvale Field, reflecting the completion of several new wells during the past few weeks, was increased 1,990 bbls., the potential in April having been set at 9,200 bbls. and for May at 11,190 bbls.

Dominguez

The Associated Oil Co. recompleted No. 6 De Francis in the Dominguez Field of Los Angeles Basin a few days ago and this well, redrilled and deepened to 4,465 feet and finished with a 4¾-inch liner carrying 193 feet of perforated, was returned to production flowing 430 bbls. of 28.3 gravity oil per day cutting 5 per cent. The Union Oil Co., which has been held up with water trouble in No. 5 Carson and No. 18 Hellman, effected a satisfactory water shutoff in No. 29 Callender and this project should be on production in the near future. The Shell Oil Co. has killed No. 40 Reyes, completed during the latter part of 1931, and this well will be redrilled and deepened. The suit of D. H. Blood, director of natural resources, to enjoin operators in the Dominguez Field from further waste of natural gas, has not yet been concluded but a decision is expected to be reached next week. Attorney A. R. Smiley, representing the Burnham Exploration Co., gave estimony a few days ago that the State is trying to use the California gas conservation law as a means to control oil production as was advocated in the defeated Sharkey bill. It is the consensus that the Superior Court will accede to the request of the director of natural resources and grant the necessary injunction possibly late next week.

Long Beach

Although several wells were put on production in the Long Beach Field during the week none registered large production. There are 18 new wells drilling in the Long Beach Field in addition to a number of reconditioning jobs. It is rather difficult to pick out the best well finished in this field during the week, as most of them showed a rather high cut. The Deleske Petroleum Corp.'s No. 1 Signal has subsequently cleaned up, however, although the cut is still a little high, averaging around 10 per cent. This well was finished at 4,928 feet and showed an initial daily production of 100 bbls. per day on the beam, the oil testing 25.1°. The Hancock Oil Co.'s No. 30 Signal, another new well finished during the week, was brought in pumping 60 bbls. of 25.2 gravity oil cutting 12 per cent from 3,968 feet. The Higgins Oil

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	April 23, 1932		April 16, 1932			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal—domestic:						
Diesel and gas oil	.....	.....	.....	.....	116,890	798,729
Gasoline	187,976	26,854	.....	.....	1,876,599	4,832,630
Kerosene	80,745	11,535	.....	.....	80,745	41,512
Foreign exports:						
Crude oil	148,463	21,209	190,949	27,278	2,921,405	2,217,863
Fuel oil	133,675	17,668	335,077	47,868	3,135,238	4,858,513
Diesel and gas oil	49,763	7,109	126,871	18,124	761,735	1,186,373
Gasoline	90,773	12,968	89,890	12,841	2,960,122	3,279,668
Kerosene	.....	.....	.....	.....	724,071	559,229
Lubricants	.....	.....	.....	.....	.....	18,978
Naphtha distillates	.....	.....	.....	.....	41,175	.....
Coastwise—domestic:						
Crude oil	361,969	51,710	113,086	16,155	4,688,019	6,647,539
Fuel oil	328,085	46,869	243,159	34,737	4,735,481	4,653,349
Diesel and gas oil	10,032	1,432	.....	.....	497,797	535,898
Gasoline	431,111	61,587	474,924	67,846	4,668,202	3,933,457
Kerosene	913	130	.....	.....	47,271	124,903
Naphtha distillates	.....	.....	.....	.....	.....	4,952

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal—domestic:						
Diesel and gas oil	.....	.....	.....	.....	70,995	.....
Gasoline	.....	.....	67,266	9,609	213,707	187,584
Lubricants	.....	.....	7,975	1,139	15,824	14,015
Foreign exports:						
Crude oil	87,022	12,432	.....	.....	578,306	6,010
Fuel oil	.....	.....	73,868	10,553	521,659	319,512
Diesel and gas oil	6,650	950	56,125	8,018	316,706	232,288
Gasoline	.....	.....	165,878	23,697	1,165,268	1,075,853
Kerosene	.....	.....	20,181	2,883	314,453	285,863
Lubricants	.....	.....	.....	.....	20,884	.....
Coastwise—domestic:						
Fuel Oil	32,177	4,597	68,102	9,729	794,938	1,364,674
Diesel and gas oil	1,564	223	.....	.....	178,311	88,756
Gasoline	129,657	18,522	41,580	5,983	1,064,227	933,243
Kerosene	.....	.....	3,719	531	29,969	58,373

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Bell Building
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LOS ANGELES, CALIF.
415 Petroleum Securities Bldg.

TULSA, OKLA.
402 Petroleum Building

HOUSTON, TEXAS
1417 Esperson Bldg.

CALGARY, ALBERTA, CAN.
Room 1, Central Block

Co.'s well No. 1, drilled to 7,678 feet but subsequently plugged back to 4,787 feet, was completed pumping 54 bbls. of 26.1 gravity oil cutting 9 per cent. The Italo Petroleum recompleted No. 1 Macrate a few days ago and it was returned to production doing 25 bbls. per day cutting 50 per cent on a compressor. The Midland Petroleum Co. recompleted its No. 1 Signal after plugging back from 6,742 feet to 4,648 feet, and it was finished pumping 40 bbls. of fluid cutting 60 per cent water.

Coyote

The Standard Oil Co. chalked up another excellent producer in the West Coyote Field of Los Angeles Basin when No. 50 Emery was brought in under a natural flow doing 1,484 bbls. of exceptionally clean 31.6 gravity oil per day. This new well, the third successful completion in the deep zone in the West Coyote Field during the past few weeks, was bottomed at 5,767 feet and finished with a 6⅝-inch liner carrying 571 feet of perforated. The Standard has also completed No. 109 Murphy Coyote at 5,839 feet after plugging back from 5,950 feet, and it should be tanking oil within the next few days. The Union effected a satisfactory water shutoff in No. 4 Del Rey, a new well in the Playa Del Rey Field, which should be passed for production during the coming week. In the Seal Beach Field, the Standard is getting ready to finish No. 25 San Gabriel and recomplete No. 12 San Gabriel, a former upper zone producer. The Wilshire Oil Co., in conformity with lease requirements, is making preparations to start two new wells on the Potrero Country Club property. No. 2 on this lease is at the present time standing cemented, while No. 1 Country Club, which was recently killed by rotary drilling fluid from No. 2, is being cleaned out preparatory to being returned to production. The Wilshire has also resumed work on No. 1 Neace in the town lot section of the Potrero Field and the company will attempt to recomplete it as a commercial producer.

Kettleman Hills

Although the Standard has not yet killed its recent completion in the Middle Dome of Kettleman Hills preparatory to deepening it, it is believed this action will be undertaken within a few days. This project, No. 6-29 V, was at last reports flowing 1,180 bbls. of clean 53.1 gravity oil and 37,000,000 feet of natural gas per day through 2½-inch beans. This well, which definitely proved the existence of commercial production in the Middle Dome of Kettleman Hills, is expected to be carried down as a deep test. No. 1 Burbank of the Petroleum Securities, which offsets the Standard's No. 6-29 V, is still held up with mechanical trouble at 9,332 feet and the possibility of an early recovery is doubtful. In the North Dome of Kettleman Hills, the Kettleman North Dome Association has pinched back No. 81-2 P to 965 bbls. of clean 35.5 gravity oil per day. This well, an offset of No. 2 Whepley of the Associated, was completed last week flowing 7,640 bbls. of crude and 6,200,000 feet of gas per day. Crude oil production in the North Dome of Kettleman Hills registered a perceptible increase late this week following the defeat of the Sharkey bill, when the Superior Oil Co. opened up a couple of notches in the flow bean of No. 1 Huffman. This increased the current production of the Superior Oil Co. in the North Dome to approximately 6,500 bbls. per day. The Superior has picked up the top of the Temblor in No. 4 Huffman at 7,198 feet and it should be tanking oil late in May or early in June. The Kettleman North Dome Association will probably also increase its list of producers in the North Dome during this period as it has three wells nearing completion.

Fruitvale

The Western Gulf Oil Co. completed another new well in the Fruitvale Field of Kern County early in the week when No. 11-B on the Kern County Land Co. lease was brought in flowing 218 bbls. of relatively clean 22.4 gravity oil per day. This well, bottomed at 3,806 feet and finished with a 4¾-inch liner carrying 116 feet of perforated, is flowing through a 32/64-inch bean. The Bankline Oil Co. has just recompleted its No. 1 in Section 21-29-27, but the production has not yet sufficiently cleaned up to take a tank gauge. It looks good for approximately 400 bbls. per day. Two new wells were started in the Fruitvale Field and both, the Bankline's No. 2-B and the Western Gulf's No. 2 Price Stewart, should be finished around the close of the month. No. 10 Fairhaven of the Mohawk Oil Co. and the Treasure Oil Co.'s No. 1 Kanoles should be finished during the next 10 days.

Round Mountain

The California Western Oil Co. finished one new well, rigged up another and staked location for a third well in the Round Mountain Field of Kern County. The company's new completion was No. 9 in Section 7-28-29, which was brought in on the beam pumping 246 bbls. of clean 16.6 gravity oil per day from 1,673 feet. A. S. Mayes secured a satisfactory water shutoff in his No. 2 in Section 6-28-29, which will be rigged up to pump within a few days. In the Mount Poso Field, the Guthrie Petroleum Co. is rigging up rotary equipment for early work on No. 1 Glide, a new well to be drilled in Section 19-27-28. The Modoc Petroleum's No. 1 Vedder in Section 26-26-28 is standing cemented but is scheduled for an early production test. The Chanslor-Canfield Midway Oil Co. is rotating at 2,210 feet in No. 41, a new well out in the West Front of the Kern River Field in Section 23-28-27 and should consequently be on production within a few weeks. No. 42 will be spudded in immediately upon the completion of No. 41, the drilling project.

Coalinga

The Shell Oil Co., which opened up 35 wells in the Coalinga Field of Fresno County late last month, recently completed a survey which shows the pipe in a number of these wells to be severely corroded. The wells which the Shell opened had been shut down for several years as a conservation measure and it is assumed the corrosion has been due to the presence of sulphur which seems to have become concentrated in several of

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Hines Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	7,414	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Co-operative Dev. Co., No. 1 Del Rey, Los Angeles Co.	26- 2-15	490	sd. sh. drilling
Lawndale Pioneers, Inc., No. 1 Peck, Los Angeles Co.	20- 2-14	6,378	suspended
Barcus, W. I., No. 1 Watson, Los Angeles Co.	28- 4-13	rig	rigged up
Baldwin Oil Co., No. 9 Inglewood, Los Angeles Co.	7- 2-14	3,130	sd. sh. drilling
Baldwin Hills Synd., No. 1 Inglewood, Los Angeles Co.	17- 2-14	4,090	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27- 2-10	2,200	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2- 9	2,700	hd. sd. drilling
Jones, W. L., No. 1 Bell, Los Angeles Co.	31- 2-12	1,593	cleaning out
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	4,902	suspended
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6- 2-11	5,060	suspended
Wardell & Menichini, No. 1 Montebello, Los Angeles Co.	7- 2-11	304	sd. drilling
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,919	suspended
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26- 1-17	1,004	fishing
Caballero Estates, No. 1 Calabasas, Los Angeles Co.	23- 1-16	1,515	gr. sd. drilling
Marble, Willard, No. 1 Chatsworth, Los Angeles Co.	6- 2-16	1,395	suspended
Ajax Pet., No. 1 Newport, Orange Co.	21- 6-10	7,259	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	1,970	cleaning out
Orangethorpe Pet., No. 1 Brea, Orange Co.	32- 3-10	100	tech. spud
Beck, Alfred, No. 1 Corona, Riverside Co.	8- 4- 6	1,110	suspended
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	suspended
Duncan, N. I., No. 1 Sagebrush, Riverside Co.	8- 4- 6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,392	sidetracking
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	664	sd. sh. drilling
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-11-16	757	sd. sh. drilling
Borderland Oil Co., No. 2 Encinitas, San Diego Co.	12-13- 4	2,677	cleaning out
South Bay Oil Co., No. 1 Border, San Diego Co.	31-18- 2	1,243	suspended
Itasca Pet. Co., No. 1 Mesa, San Diego Co.	33-18- 1	1,700	redrilling
Oklahoma Oil Corp., No. 1 Palms, San Diego Co.	25-11- 8	1,888	suspended
Shannon, G. H., No. 1 Kearney, San Diego Co.	14-15- 3	446	suspended

the old holes. A complete survey will be made by the Shell of all wells which it has suspended in the Coalinga Field. This survey will probably require several months' work as the company still has 318 wells shut in. It is significant that production records indicate the Shell's wells were returned to production pumping at a considerably higher rate than when they were originally shut in several years ago.

Lost Hills-Belridge

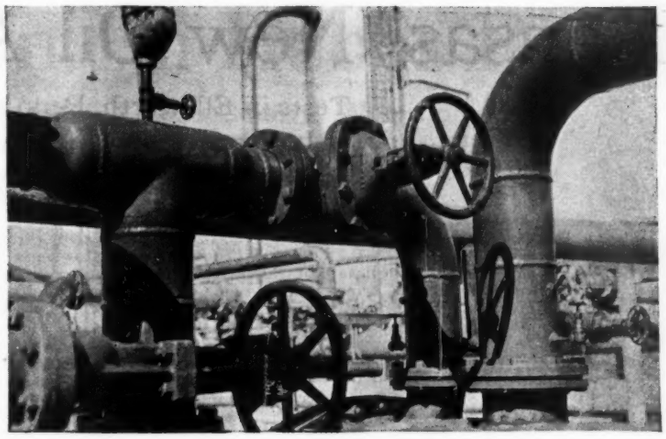
The Belridge Oil Co.'s deep test in the North Belridge Field of Kern County, now standing cemented, will probably be drilled out during the coming week and an early production test made, provided a satisfactory water shutoff has been effected. This project, No. 54-27, is bottomed at 8,062 feet with 8¼-inch water string landed and cemented at approximately 7,450 feet. The exact point at which the water string was landed and cemented has been withheld in conformity with policy of the Belridge Oil Co. to keep the well log in its vault. The significance which attaches to this deep test lies in the fact that it is presumed to be a Kreyenhagen test and may consequently increase the oil reserves of San Joaquin Basin fields if commercial production is developed. This well got away from the drilling crew on one occasion during the course of work and blew over the crownblock for approximately 28 hours. This oil might have come from the overlying Temblor as it occurred previous to the landing of the last water string, although it is the opinion of those familiar with this field the oil came from the Kreyenhagen shale. The Belridge Oil Co.'s well No. 49-35 in Section 35-27-20 was given another production test early in the week and it came in flowing 2,000,000 feet of gas per day with only a trace of oil from the Temblor at 5,595 feet.

Ventura Avenue

The Associated Oil Co. passed the 9,100-foot level several days ago in No. 83 Lloyd, a deep test in the Ventura Avenue Field, and unless something unforeseen develops should be in a position to make a production test within three weeks. This well is scheduled to be completed in the 57 zone, which the Associated discovered in the Ventura Avenue Field in 1931. It is not the intention to produce this new deep zone as No. 83 Lloyd is being drilled exclusively for exploration purposes. No well on the apex of the structure in the Ventura Avenue Field has drilled entirely through the productive formation. This field may possibly outstrip the Kettleman Hills Field so far as deep drilling is concerned as the bottoms of the possibly productive formations in the Ventura Avenue Field are not even in sight at present. Kettleman Hills will probably also justify deep drilling although the success of this work depends upon the productivity of the Kreyenhagen which immediately underlies the Temblor. If the Kreyenhagen is found commercially productive by the Belridge Oil Co. in the North Belridge Field of Kern County on the impending production test, it is assumed the Kreyenhagen at Kettleman Hills should likewise be productive. Such an occurrence will enhance the outlook for deep production in the Lost Hills, McKittrick and other San Joaquin Valley fields. The General Petroleum is expected to recomplete No. 4 Tomson in the Rincon Field of Ventura County during the next few days. This well, redrilled and cleaned out to 4,041 feet, will be put on a compressor due to its failure to come back under a natural flow.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard, No. 1 Santa Rosa Island, Santa Barbara Co.	.....	....	building roads
Barnsdall, No. 1 Los Alamos, Santa Barbara Co.	31- 8-33	3,955	br. sh. drilling
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	9,000	br. sh. drilling
Wilson, N. S., No. 1 Los Alamos, Santa Barbara Co.	2- 7-35	4,470	br. sh. drilling
Equity Oil Co., No. 1 Coal Oil Point, Santa Barbara Co.	24- 4-29	2,103	reaming
Bolsa Chica, No. 2 Coal Oil Point, Santa Barbara Co.	25- 4-29	....	location
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	rig	rigging up
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
The Texas Company, No. 1 Carpinteria, Santa Barbara Co.	33- 4-25	280	sd. sh. drilling
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Woodrow Pet., No. 1 Miguelito, Ventura Co.	4- 3-24	1,020	sd. sh. drilling
Bell, H. H., No. 1 South Mountain, Ventura Co.	22- 3-21	2,484	suspended
Magu Synd., No. 1 Oxnard, Ventura Co.	17- 1-25	5,812	fishing
American Oil Co., No. 1 Conejo, Ventura Co.	33- 2-20	1,590	cleaning out
Graham & Loftus, No. 1 Goose Lake, Kern Co.	20-27-22	6,619	prod. test
General Pet., No. 1 Buttonwillow, Kern Co.	6-28-23	3,094	plug 2,700 ft.
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	7,000	cleaning out
Milham Expl. Co., No. 13 Buttonwillow, Kern Co.	9-28-23	2,538	cemented
Purman, T. H., No. 1 McKittrick, Kern Co.	22-29-21	3,963	cleaning out
Welport Oil Co., No. 8 McKittrick, Kern Co.	26-29-21	1,298	recemented
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	5,380	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	3,260	suspended
Wallace, K. C., No. 1 Belridge, Kern Co.	32-29-21	4,222	suspended
Rio Grande, No. 1 Shale Hills, Kern Co.	7-27-19	rig	rigging up
Rio Cal Pet., No. 1 Shale Hills, Kern Co.	2-27-18	2,355	suspended
Fullerton Oil Co., No. 5 Semitropic, Kern Co.	9-28-24	2,601	abandoned
Fullerton Oil Co., No. 6 Semitropic, Kern Co.	14-27-23	rig	rigging up
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,225	suspended
Taylor, R. W., No. 1 Devils Den, Kern Co.	29-25-19	rig	suspended
Totem Oil Co., No. 1 Devils Den, Kern Co.	29-25-19	rig	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	418	hd. sd. drilling
Regina Oil Corp., No. 1 Mojave, Kern Co.	26-10-14	2,790	sd. sh. drilling
Meridian Oil Co., No. 1 Mojave, Kern Co.	11- 9-15	4,000	suspended
Harding, J. B., No. 1 Mojave, Kern Co.	5-10-10	1,030	redrilling
Barnsdall Oil Co., No. 1 Tejon, Kern Co.	15-11-20	6,020	sd. sh. drilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	6,025	suspended
Descanso Oil Co., No. 1 Tejon, Kern Co.	31-11-19	2,749	suspended
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	6,197	suspended
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-16-23	2,491	sd. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, San Luis Obispo	3-32-22	2,693	cemented
Emerich Oil Co., No. 1 Carrizo Plains, San Luis Obispo Co.	22-32-22	821	sd. sh. drilling
Trav-El Oil Co., No. 1 Carrizo Plains, San Luis Obispo Co.	7-32-22	2,450	cleaning out
Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	26-31-12	3,352	suspended
Martin, J. D., No. 1 Edna, San Luis Obispo Co.	5-31-13	3,070	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,191	suspended
Emerich Oil Co., No. 1 Atascadero, San Luis Obispo Co.	13-28-12	2,401	sd. sh. drilling
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	1-29-12	1,650	suspended
Pacific Inland, well No. 1, Monterey Co.	19-23-15	2,339	redrilling
Brown, W. F., No. 1 Parkfield, Monterey Co.	15-23-14	1,051	suspended
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Owens Bros., No. 1 Dudley Ridge, Kings Co.	32-22-20	294	sd. drilling
Brown, A. M., No. 1 Dudley Ridge, Kings Co.	18-22-19	380	sd. sh. drilling
Kettleman Nat. Gas Co., No. 1 Dudley Ridge, Kings Co.	18-22-19	1,100	suspended
Irma Investment Co., No. 2 Dudley Ridge, Kings Co.	7-23-20	1,224	suspended
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.	15-23-20	1,125	gas—shut in
Eagle Oil Co., No. 2 Dudley Ridge, Kings Co.	15-23-20	590	gr. sd. drilling
Valley Expl. Co., No. 1 Dudley Ridge, Kings Co.	12-23-19	1,302	suspended
Tulare Basin Gas Co., No. 2 Dudley Ridge, Kings Co.	2-23-19	....	material
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	5,894	cleaning out
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	suspended
Magee & Stone, No. 1 Alpaugh, Kings Co.	34-24-22	3,660	suspended
Guess, E. B., No. 3 Dudley Ridge, Kings Co.	12-23-22	1,798	sd. sh. drilling
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-24-27	2,200	suspended
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Gravity Expl. Co., No. 1 Alpaugh, Tulare Co.	11-24-23	2,207	circulating
Ellis & Sanford, No. 1 Tulare Lake, Tulare Co.	20-24-23	1,920	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	7,694	suspended
Napa Oil Co., No. 1 Griffith, Napa Co.	7- 8- 3	2,848	cleaning out
Orinda Pet., well No. 1, Contra Costa Co.	32- 1- 3	2,120	suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	1,040	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3- 2-10	4,750	suspended
Hilderbrandt, R., No. 1 Crows Landing, Stanislaus Co.	26- 6- 7	1,130	suspended
Rushing Oil Co., No. 1 Waterford, Stanislaus Co.	20- 3-13	2,400	sd. sh. drilling
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23- 3	3,040	suspended
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-12- 3	2,193	cleaning out
Easton & Monell, No. 1 Colma, San Mateo Co.	25- 3- 6	3,120	sd. sh. drilling



Close-up view—8" Taylor Forge Tee with two 8" x 6" Reducers attached. Note also the two Taylor Forge Long Radius Ells.

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Data Sheet 32-2 gives complete details

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TAYLOR FORGE

Kansas' New Oil Areas Are Extended

Tests in Ellsworth, Reno and Kingman Counties Uncover Important Showings. Allowable Production Increased

By W. A. Spinney
Staff Correspondent, Kansas Fields

New wells in the central western part of Kansas have widened the producing area. A well that promises to be the largest yet completed in the Stratman Pool, in Ellsworth County, was being completed. Smith & Ash's No. 1 Stratman, NW cor. NE NE Section 12-17-10w, filled 2,200 feet with oil in four and one-half hours from the Siliceous lime at 3,263-66 feet. A large amount of the oil was believed to be coming from the top of the lime.

The wildcat well, Derby Oil Co.'s No. 1 Rainbow, in Section 33-22-7w, in Reno County, which found a showing of free oil early in the week at 3,547-60 feet and was waiting for the cement to set after landing casing, was drilling out the plug over the week end preparatory to making a test.

The daily allowable of the Stratman area in Ellsworth County was increased from 5 to 10 per cent of the potential during the week by the proration umpire. The increase was due to the entrance into the pool of the El Dorado Oil & Refining Co. with a pipe line to a loading rack at Holyrood. Aylward and others' No. 4 Stratman, NW cor. NE SE Section 1-17-10w, in the Stratman Pool, in Ellsworth County, has a potential rating of 2,394 bbls. in 24 hours from the Siliceous lime at 3,254-61 feet.

Two new wells in the south end of the Seeley Pool, in Greenwood County, were better than average, increasing interest in that area. Harry Gore and Phillips Petroleum Co.'s No. 4 Beal, SW cor. SE SE Section 28-23-11, is rated at 250 bbls. a day from the Bartlesville sand at 1,904-79 feet. It was shot with 280 quarts of nitroglycerin. The well swabbed 230 bbls. of oil in its first 20-hour test. The same operators also staked No. 5 Beal, SE cor. SW SW Section 28-23-11, a location west of the producer.

Ward McGinnis and others' No. 2 Edwards, SW cor. NE NE Section 33-23-11, was shot with 130 quarts and is estimated at 450 bbls. a day from the Bartlesville sand. It was being cleaned out and will be given a swabbing test.

Harwood Oil Co.'s No. 4 Beal, NW cor. NE SE Section 28-23-11, is the south offset to the Gore and Phillip Petroleum Co.'s new producer, and is rigging up.

A few miles to the southeast along the Bartlesville sand trend, H. Gore and others' No. 2 Brothers, NE cor. NW NW Section 35-23-11, is a new location. Material is expected to be moved to the location soon. Other developments in the vicinity include Amerada Petroleum Corp.'s No. 8 Ellis, SW cor. SE SW Section 26-23-11, which is expected to reach the sand in a few days. Matthews & Rex's No. 1 Scott, NE cor. Section 7-24-12, is spudding. It is located in the vicinity of two producing wells recently completed along the narrow trend in that locality.

Winfield Townsite

A shallow producing horizon was found in a test on the Winfield townsite, Cowley County. Citizens of Winfield have protested against the drilling of wells in the residence districts, but the city has granted a permit to Earl Wakefield to drill a test just west of the Southwestern College campus.

G. W. Hinkle and others' No. 1 Bertrand, Lot 3, Block 2, College Hill Addition, in Section 22-32-4, Cowley County, found a showing of oil at 2,387-2,426 feet. The oil rose 1,500 feet in the hole in a short time. The owners plan to drill to the Siliceous lime and later drill a twin or plug back and make a test of this showing. The Hinkle well is located near municipally owned property which has not been leased.

Trees Oil Co.'s No. 1 Springate, in Section 6-34-2, in the eastern part of Sumner County, found a showing of oil at 3,125 feet. The casing was being landed on top of the formation to dry up the hole preparatory to drilling deeper.

Increase in Allowable

The entrance of the Eldorado Oil & Refining Co., with a pipe line into the Stratman area to become a purchaser of crude oil, resulted in the allowable in three areas of Ellsworth County, Heiken, Stoltenberg and Stratman, being increased from 5 per cent of the potential to 10 per cent, effective May 1. Operators were authorized to produce their properties in these areas on that basis until further notice.

With no changes in the pipe line nominations for the several other areas, producers in those areas are authorized to continue producing their properties on the present schedule.

In the central western part of the State all but two areas are connected to pipe lines. The two are the Davidson area in Barton County and the Ploog area in Rice County. Both of these wells are a considerable distance from any other production and from any pipe lines. One of the wells, Tatlock, Carter Oil Co. and others' No. 1 Ploog, C SW SE, Section 33-18-9w, was completed in August, 1930, and is estimated at 2,000 bbls. a day. It is expected that a pipe line will be constructed to the well to connect with a loading rack at some nearby town in the near future.

The several operators interested in the Ploog well own a large block of acreage surrounding the well and considerable development is expected. The Ploog well is located about 9 miles from the nearest oil well and about the same distance from a railroad. It is yet without a pipe line connection.

The area comprising the counties of Barton, Ellsworth, Rice, Rush and Stafford had an estimated potential of 38,734 bbls. on May 1, from 34 wells. A number of these areas have only one well, indicating that the State has a large future supply of crude oil which can be developed when needed.

Another promising area is located in the northeastern part of Reno County, where the largest gas well ever found in the State was recently completed and shut in awaiting an outlet. Several other wells were also recently completed that made both oil and gas. At the present time eight tests are drilling on scattered tracts subject to short term leases.

An Extension Well

Skelly Oil Co.'s No. 1 Liesman, in Section 20-27-10w, Kingman County, extends production a mile west of the discovery well in that area. It was standing full of oil after finding the pay in the Kansas City lime at 3,416-65 feet. It was also making considerable gas. It widens the producing area in the county a half mile west of the same company's No. 1 Miles, the discovery well which is making about 250 bbls. a day.

Olson Drilling Co. and Shell Petroleum Corp.'s No. 1 Johnson, in Section 24-23-4w, a half mile north of the same operators' discovery Blake well, is estimated to be showing for 25 bbls. of oil an hour flowing natural, from the chat at 3,254-3,347 feet. It was also estimated to be making 5,000,000 feet of gas a day. The well proves considerable acreage owned by the above companies indicating the area around the Blake well will yield quantities of both oil and gas.

Olson Drilling Co. and Shell Petroleum Corp.'s No. 1 Krehbiel, C SW SW, Section 19-23-3w, Harvey County, is a new location in the extreme western edge of the county. The test will be drilled with rotary tools.

In the Church acre district of Harvey County, W. C. McBride, Inc.'s No. 1 Friesen, SW cor. NW SW, Section 20-22-3w, was underreaming 10-in. casing at a total depth of 2,324 feet. It offsets the discovery well which was completed as the only Hunton well in the State. In the same district, Stanolind Oil & Gas Co.'s No. 1 Froese, SW cor. NW, Section 20-22-3w, was drilling at 1,350 feet on the last reports.

Schurr Pool Production

According to the field umpire, L. R. Pickrell, the production from the period of April 1 to May 1, in the Schurr Pool, near Raymond in Rice County, and the several Siliceous lime areas of Barton, Ellsworth, Rice, Rush and Stafford County were as follows:

	Potential	Shipments
BARTON COUNTY		
Davidson Area, 4-16-11w		
Prairie, No. 1 Davidson	150	shut in
Isern Area, 12-20-11w		
Hilligoss, No. 1 Isern	1,023	4,664
Derby, No. 1 Berscheidt	50	1,488
Total	1,073	6,152
ELLSWORTH COUNTY		
Heiken Area, 25-17-10w		
Slick et al, No. 1 Heiken	1,182	1,575
Stoltenberg Area, 22-16-10w		
Derby, No. 1 Stoltenberg	1,880	5,045
Gypsy, No. 1 Stoltenberg	1,596	3,882
Vickers, No. 1 Stoltenberg	800	996
Williams et al, No. 1 Stratman	*1,000	.....
Total	5,276	9,924
Stratman Area, 1-17-10w		
Aylward et al, No. 1 Stratman	2,492	.....
Aylward et al, No. 2 Stratman	1,918	.....
Aylward et al, No. 3 Stratman	*1,000	.....
Aylward et al, No. 4 Stratman	2,394	.....
Total	7,804	10,881
Derby, No. 1 Stratman	974	5,808
Robertson et al, No. 2 Stratman	1,717	.....
Robertson et al, No. 3 Stratman	1,970	.....
Total	3,687	5,802
Total Stratman area	12,465	22,788
RICE COUNTY		
Beyer Area, 21-19-9w		
Muth Brothers, No. 1 Beyer	*250	.....
Ploog Area, 33-18-9w		
Tatlock et al, No. 1 Ploog	2,000	shut in
Sharpe Area, 13-20-10w		
Hinkle et al, No. 1 Sharpe	200	5,066
Schurr Area, 21-20-10w		
Phillips, No. 1 Mezger	1,377	.....
Phillips, No. 2 Mezger	1,247	11,818
Prod. & Ref., No. 1 Thompson	689	.....
Prod. & Ref., No. 2 Thompson	1,620	10,367
Slick et al, No. 1 Mezger	886	3,996
Slick et al, No. 1 Schurr	742	3,237
Slick et al, No. 2 Schurr	1,062	.....
Slick et al, No. 3 Schurr	1,540	11,724
The Texas Company, No. 1 West	998	4,532
Vickers, No. 1 Binger	1,380	.....
Vickers, No. 2 Binger	347	.....
Vickers, No. 3 Binger	100	9,268
Total	11,988	54,942
RUSH COUNTY		
Greenwalt Area, 17-19-16w		
Boyle-Grossman, No. 1 Greenwalt	50	622
STAFFORD COUNTY		
Richardson Area, 36-22-12w		
Midwest, No. 29 Allen	*1,800	5,155
Midwest, No. 11 Figger	*500	.....
Midwest, No. 36 Richardson	*1,800	.....
Total	4,100	5,155
Total central western areas	38,734	106,014

*Estimated.

Central Western Production

The daily production from the prorated areas in the central western part of the State for the first half of April was approximately 3,239 bbls. from 28 wells. The allowable production in the Schurr Pool, and in the other Rice County areas was 15 per cent. In Ellsworth County it was only 5 per cent, but was increased to 10 per cent on May 1. The daily production from each of the pools during the first half of April was as follows:

Pool and County—	Wells	Bbls.
Sharpe, Rice	1	188
Schurr, Rice	12	1,652
Ploog, Rice	1	(*)
Steckel, Rice	1	(*)
Heiken, Ellsworth	1	(*)
Stoltenberg, Ellsworth	3	222
Stratman, Ellsworth	6	812
Isern, Barton	2	365
Davidson, Barton	1	(*)
Richardson, Stafford	2	150
Greenawalt, Rush	1	50
Total	28	3,239

*Shut in.

Cowley County

Wakefield and others' No. 1 Abernathy, SE cor. NE SE, Section 22-32-4, is a rig.

Ellsworth County

Johnson and Vickers Petroleum Co.'s No. 1 Claussen, C SE NW, Section 31-15-10w, was spudding.

Greenwood County

Mathews and Rex's No. 1 Reeser, NE cor., Section 7-24-12, was spudding. Hoover and others' No. 1 Teegarden, SW cor. NE, Section 16-23-11, was spudding. Harwood Oil Co.'s No. 4 Beal, NW cor. NE SE, Section 28-23-11, is a rig. Ward-McGinnis' No. 3 Peoples, NW cor. NE NE, Section 33-23-11, is a rig, and No. 4 Peoples, NE cor. SW NE, Section 33-23-11, is a rig.

Harvey County

Olson and others' No. 1 Krehbiel, C SW SW, Section 19-23-3w, is a rig on the ground.

McPherson County

Magnolia Petroleum Co.'s No. 1 Starky, SE cor. NE NE, Section 28-20-3w, is a rig. Carter Oil Co.'s No. 1 Tinsley, C NW NW SE, Section 6-20-1w, is a rig. Darby Oil Co.'s No. 2 Coon, SW cor. SE SW, Section 20-19-1w, is a location. Simmons and Carney's No. 1 Krehbiel, SE cor. NW, Section 33-18-1w, is a rig.

Rice County

Stuckey and others' No. 1 Orth, SE cor. NE, Section 27-18-10w, is a rig.

Stafford County

Midwest Refining Co.'s No. 8 Brock, C NW NW, Section 6-23-11w, was a location abandoned.

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location— Remarks:
Skelton Oil Co.'s No. 1 Ott, C SE SE, Sec. 16-19-14w.... Set line 3,530-46 ft.; show oil.

DICKINSON COUNTY

Severe et al's No. 1 Lavengood, NE SW, Sec. 13-13-2... S.D. 4,752 ft.

DOUGLASS COUNTY

Hewitt's No. 1 Dodder, CWL SW SW, Sec. 7-15-18..... Water 1,330-35 ft.; S.D.

EDWARDS COUNTY

Mid-Kansas O. & G. Co.'s No. 1 Converse, SW NE NE, Sec. 30-24-18w ..... Drlg. 2,375 ft.

ELLSWORTH COUNTY

Johnson Vickers' No. 1 Claussen, C SE NW Sec. 31-15-10w ..... Rig.
R. Gear et al's No. 1 Sanberth, C SW SE, Sec. 29-16-9w.. S.D. 50 ft.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w..... R.O.G.

FINNEY COUNTY

National Ref. Co.'s No. 1 Wells, C SW, Sec. 13-23-30w... Drlg. 4,700 ft.

(Continued on Page 78)

New Productive Unit in Hobbs Pool

Garland-Byron District in Jackson Area, Big Horn County, Wyoming, Shows New Activity. Arizona Test Abandoned. Survey in Colorado

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., May 9. — The Midwest Refining Co.'s No. 8 Turner, which added another 40-acre unit to the productive area in the Hobbs Pool, flowed at the rate of 7,128 bbls. daily on a retest, the water having disappeared. The same company's No. 29 State was completed for 886 bbls. per day. Grayburg Oil Co. is about to complete a producer in the Jackson area in Eddy County. The Garland-Byron district in Big Horn County, Wyoming, is showing an increase in activity with three or four wells scheduled to be drilled this summer. The Sinclair-Prairie Oil Co. is preparing to drill in its Bunker Hill wildcat in Carbon County. Operators in the Osage Field are finding a ready market for their output at $1.25 per bbls., due to the demand for tractor fuel at local refineries.

Colorado geologists, accompanied by representatives of the U. S. Geological Survey, are making a field inspection trip to settle some disputed points regarding the age of beds in northeastern Colorado. Only one well is active in that district, although rumors of additional tests are being circulated.

In Montana, the Ohio Oil Co.'s Golden Dome test in Carbon County, was disappointing in the Dakota and other wells in that field are showing up better as they near the objective.

The Benedum-Trees test in Arizona was abandoned after cutting 11 water sands.

Permit holders in the Boundary Butte Dome in southeastern Utah are seeking to recover their permits in a move for another test.

DISCOVER DISTILLERY IN DERRICK CELLAR

The uses to which abandoned wells may be put were increased by one recently when government agents discovered in northeastern Colorado a complete distillery built under ground with an entrance through a tunnel from the cellar of an old well. The well had not been drilled very deep, but the cellar was of a type of which any driller might be proud. It took a long time for outsiders to discover that the drilling was parallel with the surface and not perpendicular and that the occasional odors floating out of the hole were not from natural gas.

NEW MEXICO

Lea County

The Midwest Refining Co.'s No. 8 Turner, C NW SW Section 34-18-38, on the southeastern side of the Hobbs Pool, which brought another unit of 40 acres into production upon being completed two weeks ago, was given another test for proration purposes the past week and showed up somewhat better than in the first test. In the first test it flowed at the rate of 6,269 bbls. of oil and 2,090 bbls. of water, with 6,421,000 feet of gas, through the casing. When retested, it flowed at the rate of 7,128 bbls. of oil and 6,591,000 feet of gas through the casing and tubing. The water had entirely disappeared. Through the tubing, set at 4,148 feet, it flowed at the rate of 4,666 bbls. of oil and 3,308,000 feet of gas. This is an outside well and is a north offset to the same company's No. 29 Turner, which has a potential of better than 19,000 bbls. per day.

Midwest's No. 29 State, C SW SW Section 10-19-38, was completed at 4,180 feet and produced at the rate of 886 bbls. of oil and 614,000 feet of gas in an official test. Same company's No. 8 Terry, C NW SW Section 10-19-38, is drilling at 3,630 feet. It had another increase in gas at 3,270 feet.

Amerada Petroleum Corp.'s No. 1 Hardin, SW cor. Section 18-18-38, at the north end of the field, is bottomed at 2,964 feet and mixing mud and waiting for a rotary swedge. The 10¾-inch casing collapsed at 2,536 feet. This well topped the brown lime at 2,825 feet and had the first gas at 2,841 feet.

Texas Pacific Coal & Oil Co.'s No. 3-G State, C SE Section 24-18-37, an outside well on the northwestern side of the pool, is rigging up rotary.

Curry County

G. W. Trout and others' No. 1 Hart Estate, NW SW NW Section 24-2n-31, is drilling at 925 feet in red shale.

De Baca County

Landowners Oil Co.'s No. 1 McAdoo, SW cor. NE Section 16-1s-27, Buffalo Creek, has completed the installation of new engine and is making new hole. It is drilling at 4,727 feet in shale and lime shells and carrying the 6⅝-inch at 4,702 feet.

Eddy County

Grayburg Oil Co.'s No. 3 Burch, C SW NW Section 19-17-30, in the Jackson area, is drilling at 3,035 feet in gray lime and is due for completion at around 3,100 feet. It has several hundred feet of oil in the hole and is making approrimately 500,000 feet of gas per day. There was another increase in oil at 2,955-58 feet. This well is a north offset to the same company's No. 2 Burch, which was completed at 3,204 feet for 45 bbls. per day initial.

Leonard & Lever's No. 7 State-Levers, C SW SE Section 20-17-29, which is between a group of gassers and the Burch well, is rigging up.

W. A. Scott's No. 1 Kaiser, NW SE Section 7-18-28, Artesia district, is shut down at 150 feet on account of heavy rains.

New Mexico Oil Syndicate's No. 1 Mc-

West Virginia Has 135 Barrel Well

Found in Calhoun County Area Confined Previously to Gas Wells. Southwest Ohio Resumes Activity With Five Producers

By Staff Correspondent

PITTSBURGH, Pa., May 9. — More activity was recorded in the three sections of the eastern fields with 13 completions and three dry holes reported. Of these seven were oil producers, one very fair, and six were gas wells, several of fair size. The good producer was completed in West Virginia and, though not a gusher, is the largest producer brought in since curtailment went into effect in that state. It was in an area which has been confined to completions of gas wells. In Sherman district, Calhoun County, in the Arnoldsville Quadrangle, Creed Barker and others drilled a test on the A. J. Huffman farm, passing through the Injun sand at 2,032 feet, the Squaw sand at 2,107 feet and found a producer at 2,135 feet, known locally as the Blue Monday sand. The well produced 135 bbls. the first day, natural, and 127 bbls. the second day.

SOUTHEAST OHIO

Of prime interest is the increased activity in southeastern Washington County, Ohio, stimulated by the continued fair production of the William Harris and others' test on the Joseph Crago farm, section 11, Grandview Township. Neither of the two deepest wells drilling made completions during the past week. Swingle Brothers' test on the Michael Edwards farm, SE Section 34, Newport Township, is now in the formation presumed to be the third Warren sand and failed to make a producer natural. The test is now shut down and will be shot at that depth and if not successful may be completed in a shallower sand. This test is about 6 miles from the Crago farm.

About 3 miles from the discovery well, Thomas McVey and others are drilling on the Cordray Sisters farm, SW Section 24, Grandview Township. This test has passed through the third Warren sand, which proved to be dry. The depth of this test at present is 3,708 feet and it is being drilled down to the Cinnamon sand, in the hope of a gas well from that formation.

The offset well to the Crago, the test of E. J. Mildren on the William Barber farm, Section 11, Grandview Township, has reached 2,300 feet. The third Warren is expected at 3,150 feet. In Independence Township, the Penn-Ohio Gas Co. is drilling two tests, one on the D. R. McKnight farm, NE Section 10, which has reached 2,330 feet, and the other on the John Semmler farm, SE Section 16, which reached 920 feet and shut down fishing for the bit.

Another new test is announced as a rig is being built by the Reno Oil Co. on the James H. Goodman farm, SE Section 14, Independence Township. This is to be a deep test, reported scheduled for the Niagara lime if it fails of completion in shallower sands.

Completions

Southeast Ohio resumed some show of activity with five completions, all producers, and reports of three dry holes. The largest completion was in the shallow drilling in Medina County, where F. Barnhard and others completed No. 8 on the J. W. Funk farm at a depth of 422 feet. The well produced 40 bbls. the first 24 hours after shot. This location is in Section 6, Chatham Township. On the same farm and section, the same operator drilled his No. 7 to a depth of 417 feet, the Berea grit, which proved faulty and dry. In Section 10, Chatham Township, E. R. Edson & Son Co. completed a fair producer in his No. 20 on the W. A. Shaw farm. It was drilled in at a depth of only 294 feet and produced 20 bbls. the first day after shot. In the same section and township, the Oko Oil & Gas Co. drilled its No. 31 on the Sanford and Watson lease to a depth of 350 feet and abandoned it as a dry hole.

In Jefferson County, J. D. Jackson & Co. completed a test on the John Williamson farm, SW Section 17, Island Creek Township. It was drilled to 1,350 feet, the Berea sand, and will make a small pumper, having produced 3 bbls. the first day after shot. This test is 600 feet east of a small producer on the Sarah Cathers farm. In the SW Section 20, same township, the Sanders Brothers drilled a test on the John W. Crawford farm, and north of small production on the John Spahn, and Antonia Mantica farms. It reached the Berea at 1,300 feet and proved a dry hole.

In Licking County, R. W. Early and others completed a test on the S. E. Walpole farm, Section 23, Madison Township. It is showing for about a half barrel pumper from the Berea sand at a depth of 750 feet. On Lot 23, Mary Ann Township, William Stricker and others completed their No. 9 on the William Stricker farm. It is a Berea sand well and made about 2 bbls. the first day after shot, and will probably make a small pumper.

Drilling in Other Sections

In Section 11, Reading Township, Perry County, the Mid-East Gas Co. is drilling on the Metta Snider farm and has passed the 1,000-foot level. In Muskingum County, M. F. Whitehill is building a rig for No. 6 on the Boyer farm, Section 6, Hopewell Township. In Meigs County, James Simpson and others are drilling on the Rena E. Kerr farm in Sutton Township. In Section 15, Olive Township, Noble County, the Woodford Brothers have a rig on location and are preparing to test the George Woodford farm.

WEST VIRGINIA

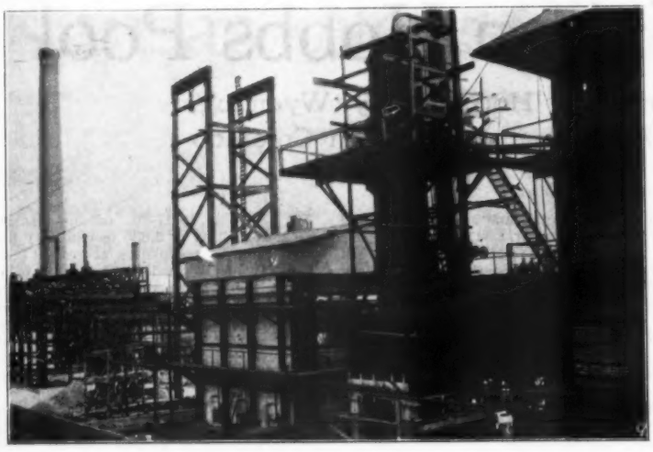
Late completions in West Virginia consisted all of gas wells some of which were fair, and mostly confined to Roane County, which has become active again. No additional producers were added to the one fair well reported above.

In Boone County, which has been practically shut down, C. P. Jones had a fair result in his test on the G. T. Hill farm in Washington district. It was completed in the Maxon sand at a depth of 1,640 feet and is showing for in excess of 500,000 feet a day. In Lincoln County, H. H. Dial completed a test on the Claude Peyton farm in Sheridan district. It is a small gas well in the shale at a depth of 3,441 feet.

In Roane County, the Reedy Oil & Gas Co. had two completions, both very fair wells. On the L. M. Riddle farm in Curtis district, this company drilled a test to a depth of 1,775 feet, the Salt sand, and it is showing for 1,000,000 feet a day from that formation. In the same district, this company completed its No. 4 on the L. D. Guthrie farm at a depth of 1,780 feet, also in the Salt sand. It is testing for close to 1,000,000 feet of gas a day.

On Buffington Run of Laurel Creek, in Spencer district, Roane County, George E. Smith and others drilled a test on the C. A. Kendall farm through the Injun sand and to a depth of 2,227 feet. They have a showing for about 300,000 feet of gas a day. In the same district, J. P. Young and others com-

(Continued on Page 72)



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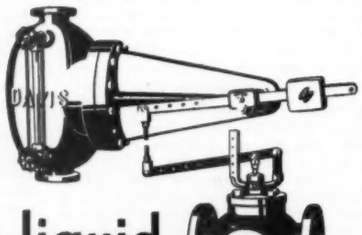

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OGJ 5-12 Gray

Clellan, SW NW NE Section 22-22-23, west of Carlsbad, is waiting while an effort is being made to organize a unit plan of operation in accordance with the recent order of the Secretary of the Interior reopening the public domain for prospecting.

Avalon Oil Co.'s No. 1 State (Paul), NE cor. SE Section 26-20-27, southwest of the Getty Pool, is drilling at 790 feet in white lime. It had 600 feet of sulphur water in the hole at 755 feet.

McKinley County

Johnsonwood Oil Corp.'s No. 1 Hannett, SW cor. Section 12-15n-10w, Walker Dome, is shut down at 865 feet.

San Juan County

Continental Oil Co.'s No. 24, SW NW SW Section 1-29-19, the second deep test on the Rattlesnake Dome, cored lime and green shale from 7,303 feet to 7,318 feet. Total depth is 7,318 feet. Same company's No. 17, C NE Section 2-29-19, the discovery well in the deep pay, swabbed down to 4,500 feet. It was deepened from 6,790 feet, where it was on production for two years, to 6,985 feet. Continental's No. 28, CNL SW Section 12-29-19, in the southern part of the pool, was drilled to 958 feet and plugged back to 764 feet and completed. It pumped 10 bbls. of oil and no water first 24 hours from the pay at 757-67 feet.

Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. 20-28-10, Kutz Canon district, has installed new sand and drilling lines and is resuming at 3,797 feet. At this depth it is 38 feet in a coal measure in the Mesa Verde formation and is supposed to be drawing near to the Point Lookout sand. The hole is carrying 2,000 feet of water to hold back gas pressure from the Picture Cliff and the first Mesa Verde sands.

WYOMING

Big Horn County

The Garland-Byron district in Big Horn County, is showing considerable activity and extensive development work is in prospect. The Illinois Pipe Line Co. has completed its 4-mile 8-inch line from the Garland Field to a connection with the Elk Basin-Greybull pipe line, which with the smaller line to the Burlington Railroad at Cowley Junction, provides ample transportation for any production for which there is a market. There are three oil producers in the field and the Midwest Refining Co. is buying some oil from the Ohio Oil Co. for its Greybull refinery. Part of this oil is being taken from the Utah Southern Oil Co.'s well. Portland Association, Inc., which has the third well, is shipping some oil to Montana refineries. The Illinois Pipe Line Co. has completed an 80,000-bbl. tank and a pumping station in connection with its new pipe line outlet.

The Taylor Oil Co., of which W. O. Taylor, of Cody, is the head, is moving in a rotary from the Oregon Basin Field for a test on the Hoskins permit on Lot 5, approximately in the SE SE Section 25-56-97, in the Byron district.

The Garland Syndicate, composed of Jesse Crosby, of Cowley; V. M. Kirk, of Frannie; Ray Phebus, of Thermopolis, and others, has acquired the holdings of the Wisconsin Holding Co. south of the shallow wells on the Byron Dome, and will complete a test on Lot 42, Section 10-55-97, which was started in 1929 and which has been standing at 625 feet since June, 1930.

Henry H. Harriman, Washington attorney, and several associates, are preparing to drill a test on a 4,000-acre block on the northern end of the Garland Dome. This block is separated from the top of the dome by a major fault cutting across the structure in a northeast-southwest direction. Mr. Harriman was one of the pioneer operators in several of the Wyoming fields. The Garland Syndicate has extensive holdings in the Harriman block.

Carbon County

Sinclair-Prairie Oil Co.'s No. 1, SE SE SW Section 29-27-89, on the Bunker Hill structure, north of the Wertz Dome, one of the most important wildcats drilling in Wyoming, is expected to resume within a day or two after being shut down for the winter at 6,147 feet. It is bottomed on top of the Dakota with the 9⅝-inch cemented at that depth. Before running pipe, the cores showed some oil and gas saturation. Comparatively little drilling will be required to determine the possibilities of the test.

Converse County

Press dispatches from Douglas say a well drilled to 278 feet for water on the Tretheway farm, south of that town, turned into a gasser. Gas, which had seeped into the kitchen of the farm house, became ignited when a lamp was lighted and an explosion followed, blowing off the roof and setting the house on fire. The well had just been placed on the pump to supply water when the gas broke through. Gas at shallow depths is a common occurrence in that district which is not far from the Shawnee-Keeline structure where the Phillips Petroleum Co. and others are reported preparing to drill a deep test this summer.

Natrona County

Mutual Oil Syndicate's No. 2, C SW SE Section 14-35-79, Midway Dome, is drilling at 4,553 feet. Circulation was lost in a crevice at 3,385 feet. The crevice was cemented and circulation was reclaimed. This is taken as positive evidence of a faulted condition in this structure, similar to Salt Creek, this faulting not being apparent in the surface geology. The formations are running at practically the same elevation as in the discovery well to the southeast, based on the Shannon sand. Another marker will be found in the top of the First Wall Creek, which is expected at 4,712 feet. The second Wall Creek is the first objective.

Jarvis & McDonald's No. 1 Government, SE cor. Section 31-30-81, Spindletop Dome, is drilling below 600 feet, with the Sundance at 1,050 feet as the objective.

Weston County

The small local refineries in the Osage Field, of which there are eight, are paying generally $1.25 for crude and the demand for tractor fuel is keeping all of them running at capacity. There is at present no established posted price except the minimum of 85 cents per barrel fixed by the mineral leasing division of the U. S. Geological Survey for crude produced on federal lands. No completions were reported and the only location made is the Dearing Oil Co.'s No. 2, NW NE NW Section 6-46-63, in the shallow district on the east side, for which rig is up.

Federal Oil Co.'s No. 2, CEL NE SE Section 15-46-64, is drilling at 1,000 feet, and Chadron-Osage Oil Co.'s No. 16, CWL NW SW Section 14-46-64, is drilling below 1,700 feet.

Gose Oil Syndicate's No. 1, NE cor. Section 28-47-63, Soda Creek, is shut down at 5,050 feet, with the 4¾-inch, which was being pulled to underream the 6¼-inch, parted at several places. William Hardendorf, drilling contractor, is preparing to fish out the pipe and lower the 6¼-inch to bottom.

Julius Peters and others' No. 1 Witell, SE cor. NW Section 30-46-64, Fiddler Creek, is bottomed at 3,360 feet in the top of the Muddy formation and underreaming the 8¼-inch at 3,200 feet. The hole has been making considerable gas for the last 50 feet. The Dakota is expected under 3,500 feet.

Crook County

Baker Exploration Co. of Montana has acquired holdings on the Kara structure, in the old Wakeman shallow field in Township 49n, Range 66w, near Moorcroft, and expects to start operations soon. M. D. Miller of Baker, Mont., will be in charge of operations.

Sweetwater County

Vermillion Oil Co.'s No. 1 State, SW cor. Section 16-12-99, Hiawatha district, is resuming at 4,685 feet after landing the 6⅝-inch on bottom last fall and shutting down for the winter. A. B. Cobb has the contract.

Fremont County

Ward Oil & Gas Co.'s No. 2, NE cor. Section 28-34-90, Dutton Basin, has completed rigging rotary and is ready to spud.

COLORADO

A group of Colorado geologists and Dr. John B. Reeside, Jr., of the U. S. Geological Survey, will leave Denver May 9 for a tour of several districts of the state for the purpose of trying to reconcile certain differences of opinion as to

the identification of beds of the upper Cretaceous. The survey, under the direction of Dr. T. S. Lovering, and in cooperation with Colorado interests, has in course of preparation a new areal geological map of the state. The committee of the survey which finally passes upon the field data is reported to have reached certain determinations as to the age of the beds in dispute which are not in accordance with the opinions of the Colorado geologists. The trip is for the purpose of harmonizing these differences through actual field investigations, if possible. The party will go from Denver to Golden, then to Boulder and the Wellington fields. The first night will be spent at Fort Collins and the next day they will go eastward through the Greasewood area to Brush, where they will stay the second night. They will then continue eastward to Sterling, where the party will stop for the third night, then back southwest through Limon to Canon City, where the trip will end.

Weld-Morgan Counties

The Tulsa-Fort Morgan Petroleum Corp.'s No. 1 Anthes, C NE NE Section 24-8n-59, in the New Raymer district, spudded April 30 and is now running tour. It is the only active well in the district. The 20-inch conductor pipe was run and the 15½-inch will be cemented at about 250 feet. Water is being obtained from a spring-fed pool about 1½ miles northeast of the location. Six 500-bbl. and two 250-bbl. tanks for fuel and water were installed and the rig is a combination rotary and cable tool outfit. Cable tools will be used for the present.

The rig, which arrived at Buckingham last week and reported to be for the Ramsey Brothers, turned out to be a core drill for the Ohio Oil Co., which is preparing to coredrill the New Raymer-Buckingham area. While the Ohio company may put down a test, it is understood no location will be made until the coredrilling is completed, if then. Ramsey Brothers, who have a large block in the district, are expected to drill a test if some other company can be induced to join with them in the cost, but so far no definite announcement of plans has been made. The Ramsey block lies about 8 miles to the east of the Tulsa-Fort Morgan test. The drilling program in the Greasewood district is still held up and no locations were announced. Manning & Terry, rotary drilling contractors, have begun repairing the water line from Jackson Lake and it is reported this is preliminary to that company drilling on the Niles tract in the E half of Section 13-6n-61, but this deal, like others involving the Platte Valley Petroleum Co. holdings, has not been definitely announced awaiting the return of members of the executive committee from the East. Manning & Terry had the contract for the Reiter-Foster Oil Co.'s No. 1 Wilson, C NE SE Section 24-6n-61, which was drilled to 440 feet with cable tools last fall and then shut down.

Weld Royalty Co.'s No. 1 Kesta, SE cor. Section 28-9n-61, Keota district, has cellar completed and is waiting for rig from Wyoming, which is reported held up by snowdrifts near Wheatland, Wyo.

Larimer County

Mayer Oil Co.'s No. 1 Reed, SW cor. NW Section 28-4n-69, Berthoud district, is delayed below 3,800 feet with a fishing job. The tools and 1,000 feet of line were in the hole. A hold on them was secured and at last reports they were coming out slowly. This test has 150 to 200 feet to go to reach the Muddy.

Adams County

Hills Dome Lease Development Co.'s No. 1 Hills, SE cor. Section 27-3s-64, near Watkins, is shut down at 4,025 feet waiting for 6⅝-inch pipe.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE Section 7-4s-66, near Aurora, is drilling at 6,005 feet in very hard sandstone. The show of oil and gas just above this depth was cemented off when the underreamer lugs which were sidetracked were cemented into the wall.

Lincoln County

Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW Section 36-14s-57, near Hugo, was reported 10 days ago to have sidetracked the lost tools and to have made 18 feet of new hole. No report has been received since then.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor. Section 24-4s-69, near Denver, is shut down at 4,280 feet waiting for 4¾-inch pipe.

Park County

South Park Oil Co.'s No. 1 Milligan, NE cor. SE Section 13-8s-76, Jefferson district, cemented cave at a total depth of 2,863 feet.

Fremont County

Canon Heights Oil Co.'s No. 2 Harding, NW SE NW Section 21-18-70, Orchard Park district, is bottomed at 3,170 feet and is drilling by bit and underreamer lugs. The 5-inch is at 3,124 feet and is to be lowered to shut off a hole full of water from the Dakota formation.

Alamosa County

W. H. Smith, of Alamosa, is reported starting a well near the town of Mosca. This is a district in which sufficient gas to heat an ordinary house may be found almost anywhere at a shallow depth.

Rio Blanco County

California Co.'s No. 1 California-Raven, NW SE Section 30-2n-102, Rangely Dome, is bottomed at 5,020 feet and fishing for pipe.

MONTANA

Carbon County

Ohio Oil Co.'s No. 1 Kuchinski, NW SE NE Section 15-7s-22, on the Golden Dome to the east of Dry Creek, has drilled through the Dakota at 6,000 feet and found it practically dry except for a small show of gas. The formation was considerably broken. The hole is being carried on down to test the Lakota.

On Dry Creek, Ohio Oil Co.'s No. 2 Montana Industrial, C NW SE Section 11-7s-21, is drilling at 5,476 feet in the Lakota with a show of oil and gas. Deeper drilling is expected to increase both. The Dakota was barren of oil, gas or water. Same company's No. 1 Caldwell, CEL NE SE Section 12-7s-22, is drilling in the Eagle sand at 2,629 feet, and its No. 2 William Robinson, C SE SE Section 3-7s-21, is drilling at 3,932 feet in shale. The Ohio's No. 1 Bowman, C SE NE Section 4-7s-21, has rig completed.

Carbon Oil & Gas Co.'s No. 1 McMinn, NW SW SW Section 7-7s-22, is standing with the casing cemented on top of the second Frontier at 4,234 feet. At this depth it showed considerable gas with sprays of oil. If production in the Frontier is not satisfactory, it will be carried to the Dakota. It is half a mile south of the nearest producer, the same company's No. 1 Armstrong.

Midland Oil Syndicate's No. 1 Burger, SW cor. NW Section 24-6s-23, East Bridger, is drilling at 280 feet.

Cascade County

Buscher & Cassidy's No. 1 Johnson, NE cor. SE Section 19-22-3e, Benton Lake, is cleaning out at 1,390 feet after setting new boiler, and Charles Merz and others' No. 1 Sheffelt, SE NW Section 4-21-4e, Black Horse Lake, is drilling at 1,040 feet in the Quadrant formation.

Glacier County

R. C. Tarrant's No. 1 Hogland, NW cor. SW Section 13-34-6w, Cut Bank district, is drilling below 2,700 feet, and J. T. Finn's No. 1 McLellan, NW cor. SE Section 12-34-6w, has rotary rigged and is waiting for drill pipe and completion of gas line.

Teton County

California Co.'s No. 1 Sullivan, NW NE NW Section 34-27-7w, Bynum district, is bottomed at 2,840 feet and cleaning out at 2,609 feet to resume after being shut down for the winter.

Pondera County

Bell & Adams' No. 1 Venetz, NE SE NE Section 31-27-3w, South Pondera, is drilling at 250 feet, and Teton Corp.'s No. 3 Jones, C NW NE Section 17-27-4w, is drilling at 800 feet.

Toole County

Oregon Oil Syndicate's No. 1 Barthelote, SW NE SE Section 20-36-2e, Barthelote district, is drilling at 2,550 feet in a 5-inch hole with water from sand at 2,540-45 feet not entirely shut off.

SOUTH DAKOTA

Chadron-Osage Oil Co.'s No. 1, NE cor. SW Section 6-12s-6e, Moody struc-

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ture, Fall River County, is drilling at 1,180 feet.

ARIZONA

Benedum-Trees' No. 1 Arzberger, NW cor. SE Section 19-15s-26, Cochise County, has been abandoned at 3,298 feet in lime on account of a crevice. It had water sands at 83-103, 360-412, 1,300-10, 1,588-92, 1,843-75, 1,975-80, 2,060-80, 2,100-15, 2,285-90, 2,955-65 and 3,215-36 feet.

UTAH

Reports that the San Juan Pipe Line Co., with headquarters at Los Angeles, was making surveys for a 92-mile 8⅝-inch pipe line from the Medicine Hat district in San Juan County to the Continental Oil Co.'s refinery at Farmington, N. Mex., can not be confirmed in Denver. A few wells which were small producers at shallow depths were drilled in that district several years ago, but none of the deep tests were productive of anything of great importance. Several years ago a small skimming plant was operated in the field and the output was marketed locally.

In 1929 the Continental Oil Co. completed a deep test on the NW NW Section 22-43-22, Boundary Butte Dome, which showed for 25 bbls. a day at 2,140 feet. It was drilled to 5,612 feet and encountered an aggregate flow of 17,000,000 feet of dry gas per day, but no oil was found below the 2,140-foot horizon. This is a large structure upon which a number of permits are held, but it is understood that the interests behind the deep test have no plans for additional drilling and an effort is being made by the permit holders to recover their permits. The Continental well was drilled on Midwest Refining Co. acreage under a co-operative group development plan.

Maud Ellen Oil Co.'s No. 1, NE NW SE Section 28-3s-21, Uinta County, is resuming at 2,450 feet and is reaming to lower the 6¼-inch. It had a good show of oil in the Pennsylvanian and when water is shut off it will continue to the Madison lime expected at 2,600 feet.

Utah Southern Oil Co.'s No. 1 Balsey, C NE NE Section 21-23-21, Grand County, is temporarily shut down at 5,220 feet.

EASTERN FIELDS

(Continued from Page 69)

pleted a test on the Dan Connally farm in the Injun sand at a depth of 1,704 feet. It will make a light gas well.

Drilling in West Virginia

In Lincoln County there are five wells drilling and fairly numerous locations cleared. In Jefferson district, the Turtle Lick Gas Co. is drilling on the J. F. Thompson farm and has reached a depth of 1,750 feet. In the same district the Cambridge Gas Co. is down 1,425 feet in a second test on the A. M. Mullens farm. In the same district, the Hamlin Natural Gas holds a location for a test on the Miller farm. In Union district, the Vernon Gas Co. is shut down in a second test on the Roy and Hal Adkins farm at 2,415 feet and is cleaning out after a shot. In Carrol district, the United Fuel Gas Co. has spudded in and started drilling on the C. F. Vickers farm. The tools are down 150 feet. In the same district, Lee Sanson and Hal Black are moving in the tools to drill on the C. A. Mahone farm, and the Kanawha Gas & Utilities Co. has made a location for No. 3 on the W. W. Carroll farm. In Sheridan district, this company has made two more locations, one on the Byron Jackson farm, and one for a second test on the Nona Johnson farm.

In Boone County, the Owens Illinois Glass Co. is in the sand on the Wheeler heirs farm in Scott district. In the same section, the Cambridge Gas Co. has reached 1,720 feet in a second test on the C. C. Lewis heirs farm. In Washington district, the Hill Gas Co. is drilling a second well on the J. Albert Covert farm and is down 1,270 feet. In Sherman district, the Pure Oil Co. has its No. 57 on the Federal Coal Co. tract drilling at a depth of 1,579 feet. In the same district, Godfrey L. Cabot has made a location for No. 6 on the productive Mary Dickinson farm.

Mingo, Wetzel and Lewis Counties hardly present any activity at all, work being confined to necessary upkeep. In Wayne County the Penn Natural Gas Co. has started drilling a second test on the Guyan Valley Bank lease in Union district. The Southern West Virginia Gas Co. is shut down for repairs in its test on the A. W. Preston farm in this district.

In Curtis district, Roane County, the United Fuel Gas Co. is still fishing for the tools in its deepest eastern test on the J. W. Hinxman farm, a depth of 9,101 feet. In this district, W. B. Heeter is shut down testing at a depth of 2,100 feet in the initial well on the T. C. Burdette farm. In Spencer district, O. E. Garrett and others are building a rig on the Roy Hildreth farm. Over the line and in Calhoun County, Harley Ferrall and others are down 1,050 feet on the Mary Allen farm in Lee district.

SOUTHWEST PENNSYLVANIA

Inactivity continues in Southwest Pennsylvania with but a few scattered wells drilling. In Pine Township, Allegheny County, near Wexford, Leidecker and Gosser shut down drilling in their second test on the P. Shenot farm. There was a light showing of oil in the 30-foot sand, as also in the Snee and Boulder sands. There was a fair showing of oil in the 100-foot sand. The Fourth sand was dry. The well has a showing for about 3 bbls. a day. The operators will shoot in all sands showing oil.

In Greene County, Fred Garrison is drilling a second test on the C. D. South farm in Dunkard Township and it is about due in the Dunkard sand. In Washington County the Carnegie Natural Gas Co. is on top of the 50-foot sand at a depth of 2,700 feet in a second test on the Jesse Chambers farm in East Finley Township.

Three Completions in Michigan Field

One Estimated Over 1,400 Bbls. and One 450 Bbls. Three Permits Issued. Muskegon Producing Over 1,000 Bbls. Daily

By George A. Whitney

MOUNT PLEASANT, Mich., May 7.—Three completions were reported from the Central Michigan Field, two oil producers and a dry hole. Pure Oil Co.'s No. 2-A Iosco Land Co., Section 16, Greendale Township, Midland County, had an initial production of 1,400 bbls. from the Dundee formation, about a mile west of the big group of wells in the East Pool. Pure Oil Co.'s No. 3-B well, 990 feet from the north line and 330 feet from the west line of the A. Bernard farm, SW NW SW, Section 10, same township, produced 450 bbls., initially.

Fred Sias' test, 326 feet from the north line and 113 feet from the east line of the Merrifield-Nelson farm, NE NE SW, Section 17, Jerome Township, Midland County, was reported dry at 3,900 feet, but was drilled deeper to 3,960 feet and still dry and has been abandoned. This Jerome Township duster is approximately 5 miles northeast of the heavy producing East Pool.

Among the wells nearing the pay formation is Walter L. McClanahan, Inc.'s No. 5 well, 990 feet from the north line and 330 feet from the east line of the A. G. Struble, SE NE SW, Section 10, Greendale Township, Midland County. Talbot Oil Co.'s No. 2-C State of Michigan land, NW SE SE, Section 10, same township, in the northeast corner of the tract, is due for completion most any time. This well is the next location north of the same company's No. 1-C State land, which blew in a week ago with a heavy flow of 3,600 bbls. initially, and is an east offset to the No. 3 Morrison farm, which was a big producer.

Other wells in Greendale Township, Midland County, nearing completion are: Pure Oil Co.'s No. 2 Emma O. Reed, SE NW SE, Section 10, drilling in the Dundee; No. 1, in the southeast corner of the T. E. McCann, SE SE NE, Section 7, drilling around 2,600 feet; Columbia Oil & Gas Co.'s No. 5, in the northwest corner of the George Hornick, NW NW SE, Section 15, drilling around 2,600 feet; Talbot Oil Co.'s No. 1, in the southwest corner of the State of Michigan land, SW SW SE, Section 11, drilling around 2,600 feet; No. 2-C in the northwest corner of the State land, NW SE SE, Section 10, close to the Dundee formation; and Hanner-Renner-Jones' No. 1 in the southeast corner of the Peninsula Oil Co.'s tract, SE NE SE, Section 4, below 3,000 feet, same township and county.

In the Vernon Field, Mellon-Pollock Oil Co.'s No. 2 well, 990 feet from the south line and 330 feet from the west line of the Lewis Thayer, NW SW SE, Section 22, Vernon Township, Isabella County, is drilling around 3,200 feet.

Since the drilling of the big wells on the Morrison lease, in Greendale Township, Midland County, Walter L. McClanahan, Inc., has been prorating his producing leases in the East Field, taking only about 50 per cent of the potential open flow daily production. While the four wells on the Morrison lease are capable of making about 5,000 bbls. daily open flow, only 2,400 bbls. are being produced.

Drilling Permits

F. W. Kehlet secured a permit to drill on the P. J. O'Connor farm, NW SE, Section 31, Osceola Township, Livingston County, 1,800 feet from the south line and 250 feet from the east line. Leon G. Thompson has a permit to drill, 990 feet from the north line and 330 feet from the east line of the John D. Vanercook farm, in the SE NE SE, Section 24, Denver Township, Isabella County. R. D. Malcolm has a permit to drill, 330 feet from the north and east lines of the Vernon J. Hastings, NE NW, Section 13, Greendale Township, Midland County.

Muskegon Field

Nearly 250 wells are producing about 750,000 feet of gas and more than 1,000 bbls. of oil daily in the Muskegon Field, according to a recent survey by the State Conservation Department. Of 462 wells drilled or drilling, 219 wells are still producing oil while 30 are listed as dry gassers; 39 were not producing, 172 had been plugged and 3 were drilling.

The 219 oil wells have a rated daily production of 1,384 bbls., an average of 6.35 bbls. Thirty dry gas wells have a rated capacity of 432,850 feet a day, or an average of 14,420 feet. In addition 444,010 feet of casinghead gas is collected from the producing oil wells, total of 876,860 feet of gas daily.

These totals represent a decline of about 35 per cent in oil and about 50 per cent in gas production during the past year. On March 18, 1931, 265 oil wells were producing 2,140 bbls. daily while about 30 gas wells had a daily capacity of nearly 2,000,000 feet.

The Dundee continues to hold its place as the most important oil producing structure, although now exceeded by the upper Traverse in daily gas production. A total of 155 Dundee oil wells make 1,088¼ bbls. of oil, while Dunee dry and casinghead gas aggregate 231,870 feet a day.

Forty-three upper Traverse oil wells make 181½ bbls. of oil daily, an average of 4.2 bbls. a well, while a total of 246,420 feet of gas is produced from the formation, first to be encountered in the Muskegon area. The field was opened in December, 1927, with an upper Traverse oil well.

Twenty-one lower Traverse oil wells make 114¼ bbls. daily, or an average of 6.8 bbls. a well. Gas production from the formation aggregates 204,710 feet a day.

Thirteen Monroe gas wells produce 193,860 feet, or an average of 14,900 feet a day. Other dry gas production is distributed as follows: Dundee 11 wells, 143,990 feet, or an average of 13,080 feet a day; lower Traverse, 4 wells, 54,000 feet, or an average of 13,500 feet, and upper Traverse, 2 wells, 41,000 feet, average 20,500 feet. A total of 444,010 feet of casinghead gas daily comes from three producing horizons.

The largest Dundee well, likewise the largest oil producer, is making 50 bbls. a day. The largest upper Traverse well continues to make 18 bbls., while the record lower Traverse well is good for only 10 bbls. a day.

There are prospects of considerable wildcatting in several areas of Muskegon County this summer although no permits have been received from the conservation department.

The Lake Shore's No. 1 DeVries well, a former Traverse and Dundee producer in Section 8, Muskegon Township, Muskegon County, has been completed with an open flow capacity of about 200,000 feet of gas daily from the Monroe formation. Daily production of Monroe formation gas in the Muskegon Field will be considerably increased by the DeVries well and the completion of two more wells now drilling in the Monroe formation. They are Blue Arrow Petroleum Co.'s No. 1 Kooi and United Gas & Oil Co.'s No. 1 John D. Cooper.

A new Dundee well will be started within a few days by H. C. Nelson on the former No. 3 F. J. Gates location in Section 11, Laketon Township, Muskegon County.

A.I.M.E. OFFICERS

The new officers of the Petroleum Division, American Institute of Mining and Metallurgical Engineers, follow: Earl Oliver, chairman; Hallan N. Marsh, associate chairman, General Petroleum Corp. of California; H. C. George, secretary-treasurer, University of Oklahoma; executive committee, Earl Oliver, chairman; C. E. Beecher, E. L. Estabrook, R. S. Knappen, John R. Suman, T. E. Swigart, J. B. Umpleby and J. E. Pogue. Production Engineering, E. A. Stephenson, vice chairman, Missouri School of Mines and Metallurgy; Carroll V. Sidwell, L. C. Uren, W. V. Vietti, associate vice chairmen. Production, H. J. Wasson, vice chairman; Harry F. Wright, associate vice chairman. Economics, H. J. Struth, vice chairman. Engineering Research, Harry C. Fowler, vice chairman, Department of Commerce. Engineering Education, C. M. Young, vice chairman, University of Kansas. Refinery Engineering, H. W. Camp, vice chairman, Empire Companies, Tulsa.

NAT. HARRIS DEAD

Nathaniel E. Harris, retired oil producer, widely known in the Mid-Continent, died at his home in Bradford, Pa., on April 30 after a long illness. Mr. Harris was born in Rochester, N. Y., June 8, 1862. He was a graduate of Allegheny College, Meadville, Pa. Mr. Harris operated in the Eastern fields before coming to Oklahoma. He maintained an office in Tulsa for years. Mrs. Harris and three sons, Howard and Laurence Harris of New York City, and Nathaniel E., Jr., of Bradford, survive. Deceased was a brother-in-law to A. R. (Ike) Simons, veteran Oklahoma oil producer.

Southwest Texas in for Busy Spring

Twenty-five First Reports of Prospective Drilling Operations in the Past Week. Pettus Area Especially Active

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., May 9.—Twenty-five first reports on new or prospective drilling operations the past week indicates that the increased activity in Southwest Texas is a sustained affair. There are also rumors of a number of important deals pending. There is one feature of the deals now being put over indicating a change, due, presumably, to the general business depression. Operators whose business it is to hunt up high-powered blocks and turn them to big companies or big operators complain they are not being given an opportunity to make any money. Those who are undertaking to drill wells are taking advantage of the hard times and the prime mover in a block is forced to hold the block, or be content to hold out a little acreage and get a small cash consideration. Where a purchase is made and any considerable sum of money changes hands it must be something that looks unusually good.

With the exception of the completion of a gas well in the Slick Pool on the DeWitt-Goliad County line, with 1,100 pounds pressure on both tubing and casing, the third producer in that field, the producing wells completed the past week were of no particular importance, but there were several important tests abandoned and some important new deals starting.

Meyer Exploration Co.'s No. 1 Walker, 1½ miles north of where Bob Rose recently brought in No. 1 Pierce in wildcat territory, producing at the rate of about 3,000 bbls., drilled into sulphur water and was abandoned at 2,545 feet, in the Edwards lime. Notwithstanding that it is dry, the territory to the northeast seems to hold favor as it is understood Humble Oil & Refining Co. bought a half interest in the M. O. Rayor block and No. 1 Kreus, last reported at around 500 feet, is located about 4½ miles northeast of the Meyer test. It is in this territory running northeast from Bob Rose's No. 1 Pierce and half way between and paralleling the Luling Field on the northwest and the Bruner or Salt Flats Field on the southeast that there has been a rather warm play lately in anticipation of another field being opened, based on the performance of Bob Rose's No. 1 Pierce. The extreme possibility would be a field 7 or 8 miles long.

The Meyer test evidently got the formations low topping the Edwards at about 2,535 feet. No. 1 Pierce is producing at 2,114 feet, the last formation identified being chalk and presumably in a crevice and there is danger that it may repeat the history of the Branyon well 9 miles northeast of it which has made a lot of oil but with dry holes drilled on all sides of it. However, the Meyer test may have been drilled too far west and another location to the east might get on the upthrow side and find ample production. Rayor's No. 1 Kreus, which will be completed to the Edwards lime by the Humble Oil & Refining Co., is the pivotal test from this on in that district and if it or another test a little farther east on the Walker lease from the Meyer's No. 1 Walker should get production in the Edwards lime direct and not coming up a crevice it will start a big boom again in Caldwell County.

Webster's Test

C. J. Webster Oil & Gas Co. plugged off the bottom of the No. 1 McCrory and about cured the water trouble. It is being bailed day times making close to 100 bbls. and showing some indications of slight increase in oil production. The block was all plane-tabled last week and geologists are working over the territory. It is announced that at least two more tests will be drilled whether the next test is a producer or dry. The situation calls for at least that much more work being done there.

There isn't the lease play around the Webster test that there is around the other for the reason that there isn't the open acreage. Webster has about everything that is any account on a line between the Buchanan Field on the northeast and the Branyon on the southwest. It is estimated that there is an opportunity for a field of about 1½ miles in length, making the reasonable allowance and taking into consideration the proximity of the other two fields, and some dry holes around them.

Duval County

Camp's No. 1 Weil the close of the week was scheduled to drill in and test at 2,438 feet and during the week Hynes & Nessly's No. 1 Duval County Ranch Co. went into a sand at 2,316 feet that showed some gas and was reaming down for a seat for a sand tester. Also in the north end of the county and along the same general line of play Trinity Drillers were rigging up in Survey 122.

Camp's test is 1½ miles south of the Smith & Capp's No. 1 Duval County Ranch Co., a wildcat that came in recently for 40,000,000 feet of gas at 2,413 feet. Camp is located a little to the southeast on the flank of the structure and with a good chance of bringing in an oil well, as seen from the standpoint of a practical oil man's geology. This and the Smith & Capps' gasser all line up with the Government Wells Pool and extension and the Seacord & Putnam gasser north of them.

Hynes & Nessly are a little to the west and seem to line up with a 4,000-foot well in Survey 51, 2½ miles northwest of the Government Wells Pool drilled by Magnolia Petroleum Co. several years ago, and the Trinity Drillers' No. 1 Hagist, in Survey 122 in the extreme north limits of the county, which is now rigging up.

In southeastern Duval County, R. A. Thompson's No. 1 Parr has been abandoned at 5,000 feet but Plymouth Oil Co. has taken a big block of acreage and is getting ready to make a location on the Parr ranch and in the same part of the county.

Pettus District

Several new tests have been located in the Pettus district, more new locations having been announced the past week than in many weeks. On the west limits of the area The Texas Company's No. 4 Gremmel, 450 feet west of nearest production, was down around 3,400 feet early this week. Sand is expected at about 3,900 feet. Coquat's No. 1 Roberts, midway between the Cosden Pool on the north where production is had at about 3,650 feet and the Pettus Pool production on the south at 3,900 feet, was down about 3,300 feet the first of the week, with only about half a mile distance between the farthest south producer in the Cosden Pool and the farthest north producer in the Pettus extension.

Of the new activity in that district, United Production Co. has made a location for No. 43 Ray, one or two locations farther east than the present limits of the field. The Texas Company is clearing location for a test on the Scott land east of the Normanna Field. C. F. Nichols is moving in for a test east of Tuleta which is half way between the Pettus Field 3 miles north and the Normanna Field 3 miles south. Also E. S. Price it is understood is getting ready to drill another test on the Weiss land 3½ miles southeast of the Pettus townsite where he drilled a couple of tests two years ago and had a big gas showing in one.

In the Normanna territory, the Gulf Coast Oil Co.'s No. 1 Hicks, drilled one location from the Nichols Oil Corp.'s two producers, cored a sand at 4,535 feet with nothing showing. One of the Nichols wells is producing at 2,000 feet and the other at 3,641 feet and the new test has passed up both of these sands.

It has taken the Humble Oil & Refining Co. several weeks to get back on bottom in No. 1 Laura Thompson at 5,310 feet several miles southeast of Beeville but from this on it will be making new hole. It had a little showing of oil when it shut down. Also Texas Gulf Production Co. has got started on No. 1 Webb Hearn, on a big block with obligation to drill deep and these are the most important wildcats in the county.

Deep Dry Holes

Among the abandonments of the past week is the Atlantic Oil Producing Co. and Welder Oil Corp.'s No. 3 Welder, dry at 6,015 feet, the contract depth. It was a gas well at 3,689 feet, deepened by joint agreement to test for lower sands.

Another deep test abandoned the past week is the Texas Gas Utilities' No. 8 Chittim, in Maverick County, at 5,648 feet. First production in that district was found by the Rycade some years ago with a 28,000,000-foot gas well spraying oil at about the depth of the Texas Gas Utilities' No. 8 Chittim. A number of other deep tests have been drilled in that district by Rycade, and since by the Texas Gas Utilities but without any marked success thus far.

Two important new tests are being shaped up in the Coast country. One is to be drilled north of the Kingsville Field in Kleberg County and the other between Aransas Pass and Rockport. The latter is to be a 5,000-foot test and papers are now being passed and titles examined.

Saxet Field

Gulf Coast Oil Co.'s No. 1 Perkins and Gasse in the Saxet Field, Nueces County, blew out wild while running casing after testing a sand at 4,556-66 feet, and wrecked the derrick. Estimated volume of gas 50,000,000 feet. A gas sand was encountered at 1,650 feet which had high pressure and the blowout may have come from it. This same 1,650-foot sand blew out in the original R. A. Thompson's No. 1 Harrell, the discovery well in that sand, and later caused trouble in other wells.

The well is in the north edge of the field a little southwest of the Houston Oil Co.'s No. 1 Maggie Harrell that was the discovery well in sand at 4,560 feet where it made 20,000,000 feet of gas and 200 bbls. of oil.

Brooks County

Allen & Morris' No. 1 Holbien-Wormser in northwestern Brooks County blew out from newly discovered sand at 1,805-19 feet and half of the drill stem dropped back in the hole and killed the well. This test is just a little west of where Houston Oil Co. in 1929 discovered a new field now known as the Alta Verde Field, the discovery well being at 4,112 feet.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

Week Ending April 23

Company, farm and location—	Remarks:
ATASCOSA COUNTY	
American Central Oil Co.'s No. 2 Mary McConnell, 150 ft. W of E line, 300 ft. S of No. 1, Blk. 138, W. C. M. Baker Sur., 3 miles W and 6 miles S from Somerset	T.D. 1,660 ft.; standing.
Glen Mathis' No. 2 Mrs. C. Martin, 100 ft. SE of No. 1	T.D. 3,240 ft.; drlg.
BASTROP COUNTY	
I. L. Champion's No. 1 Owens, 500 ft. to SE line, 600 ft. to SW line of 623-ac. tract, Isaac Cosner Sur.	T.D. 1,400 ft.; drlg.
Lonnie Evans and Dan Auld's No. 1 D. J. Orgain, 2,100 ft. from NW line, 2,775 ft. from SW line of Addison Littleton League	Location.
E. R. Marts and W. J. Beavens' No. 1 R. L. Carter, 450 ft. from NE line, 150 ft. from NW line of 100-ac. tract in George J. Glasscock Sur.	T.D. 2,275 ft.; standing
BEE COUNTY	
Humble O. & R. Co.'s No. 1 Laura Thompson, 6,360 ft. from N line, 15,100 ft. from W line of tract in Garrett Roache Sur., S part of county	T.D. 5,310 ft.; o.s bottom.
J. L. Mauldin's No. 1 Kimball, 300 ft. NE of Grayburg Oil Co.'s No. 1-A Kimball in S. Winship Sur.	Location.
C. F. Nichols' No. 1 J. P. Harris, Durango grant east of Tuleta	Moving in rig.
The Texas Co.'s No. 1 Scott, E of Normanna Field	Clearing location.
Texas Gulf Producing Co.'s No. 1 Webb Hearn, 1,000 ft. N, 43 degrees E, thence 300 ft. NW at right angles from Hurlburt's No. 1 Wood in P. T. Irrigation Co. Sur.	T.D. 1,400 ft.; drlg.
BELL COUNTY	
J. W. Riley's No. 1 W. S. Chaffin, in M. Griffin Sur.	T.D. 450 ft.; S.D.
BEXAR COUNTY	
Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio	T.D. 810 ft.; S.D.
Lloyd Bender's No. 1 Suburban Irrig. Farms, 800 ft. No. of cen. of N line of K. K. Herring tract, 1 mile E of Kirk	T.D. 600 ft.; drlg.
S. W. Blount's No. 1-A S. A. Land & Dev. Co., 10 ft. from No. 1 in I. Perez Sur.	T.D. 610 ft.; drlg.
Eckert et al's No. 1 Edwards, 150 ft. to N and W lines of farm in Martinez Sur.	T.D. 1,490 ft.; standing.
Jones & Volts' No. 1 Bonkowsky, 150 ft. to N and W lines of William McMenenes Sur., 12 miles E of San Antonio	T.D. 907 ft.; standing.
Dr. Ewell Neil's No. 1 J. Watson, 500 ft. from W line, 1,700 ft. from S line of B. Martinez Sur.	T.D. 2,495 ft.; in Edwards, dry.
Schneider, Rees et al's No. 2 Claussen, 13 miles NE of San Antonio	T.D. 1,330 ft.; S.D.
BROOKS COUNTY	
Allen & Morris' No. 1 Lasater, NW part of county, 450 ft. to NE line, 7,325 ft. to SE line of 962-ac. tract	T.D. 1,210 ft.; drlg.
Ed East's No. 1 A. Garcia, 600 ft. from N and E lines of 2,168-ac. tract in SW part of county	T.D. 35 ft.; set surface csg.

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Seneca and Wyandot Counties Busiest

Have Largest Amount of New Work in Central West. Central Ohio Has 20 Rigs and 67 Drilling. Indiana and Kentucky Completions

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, May 9.—The largest amount of new work is centered in Seneca and Wyandot Counties of Ohio. The wells are not so large as in the older days, but it may come back in the near future as attempts are to be made on the outer edges of the old development in hope of increasing the producing area, as there is now a market for all oil produced in and adjacent to the old Lima Field, most of which is handled by the refinery at Lima. There is much untested territory in many counties in northwestern Ohio, western Lucas County, Henry, Defiance, Paulding, Putnam, Van Wert, Mercer, Auglaize, Shelby, Wood, Sandusky, Seneca, Wyandot, Hancock, Allen, Hardin, Ottawa, Fulton and Williams Counties, oil and gas having been found in each county and only a few wells drilled in a number of the counties mentioned.

In Seneca County, J. H. Murphy & Sons have a showing of oil on the F. C. Sparks farm, Section 11, Hopewell Township, at a depth of 1,462 feet, and it may be completed for a commercial producer. Same parties are drilling around 500 feet at No. 3 Cyrus D. Knepper, Section 11. The Industrial Oil & Gas Co. is down several hundred feet on the Mathias W. Hunker, same section. E. E. Holsinger and others are drilling around 800 feet on the Andrew D. Bickler, Section 14, same township, while the Sandusky Gas Co. at last report was at 270 feet on the Lorenzo D. Creeger, Section 15, same township. McPheron and others are due to bring in No. 1 Edward Walton, Section 10, Crane Township, Wyandot County.

CENTRAL OHIO

In checking the new development work in the Central Ohio Field, it is found that there are 20 rigs up and 67 wells drilling, a total of 87, which is most encouraging, this work being done in 24 counties. Stark County leads with three rigs and 15 wells drilling, a total of 18, and Muskingum County shows four rigs and six drilling wells, a total of 10.

Seven completions were reported in the field, of which four were gas and three were dry holes, there being no oil wells brought in.

In Lorain County, Ramage and Willis drilled in a light gas well in No. 3 Fred Armbruster farm, Lot 89, Grafton Township, the gas being found from 2,795 to 2,807 feet, and total depth 2,824 feet.

In Summitt County the Wiser Oil Co.'s test on the O. C. Conlan, Lot 84, Bath Township, proved a duster in the Clinton from 3,534-48 feet.

In Licking County, Perry Township, McClay Brothers' No. 8 Jacob Lothers farm, Section 7, shows for a gas well with 500,000 feet and in the Clinton lime from 2,887 to 2,904 feet.

In Guernsey County, Cambridge Township, Charles Smith and others have a gas well on the Edward and Kate Dodds, Lot 24, the gas being found from 1,140-44 feet, and drilled to a total depth of 1,156 feet.

In Belmont County the Ohio Fuel Gas Co. has a light gas well in No. 1-5,645 George Butler farm, Section 32, in the Berea sand from 1,735-40 feet. William Curn and others found a dry hole on the J. A. Johnson farm, Section 15, Somerset Township, at a total depth of 1,925 feet. In the same township, Gibson Bradfield and others made a location for No. 2 Patterson heirs farm.

East Ohio Gas Co. made a location for No. 4 Howard B. Fawcett farm, Section 17, Jackson Township, Stark County. White and Bacon found a light gas volume in No. 2 Bessie Slagle farm, Section 14, same township, from 2,879-57 feet and gave it a shot, and is now going deeper, drilling at 3,010 feet. W. F. Shetler is shut down for a new wire line on the A. L. Funk farm, Section 22, same township, at a depth of 2,050 feet. In the same township, the East Ohio Gas Co. in its No. 2 on the Leo Frank farm, Section 14, failed to find any indications of oil or gas in the Stray sand from 4,345-61 feet, and the Red sand was dry from 4,361 to 4,411 feet, but found a gas pay sand in the Clinton lime and is still drilling.

In Tuscarawas County, Fairfield Township, Frey and others are drilling No. 3 J. R. Weaver, Sections 3 and 4. The Atha Co. is drilling on the Arthur Taylor farm, Section 16, Union Township, Muskingum County. Reno Oil & Gas Co. has a rig in for No. 3 on the S. S. Day farm, Section 11, Jefferson Township, Knox County. Same company has a rig on the Carrie Pipes farm, Section 15, Richland Township, Holmes County.

Commonwealth Gas Corp. has a rig on the Roy B. Dickson, Section 24, Jefferson Township, Richland County.

In Ashland County, Ruggles Township, G. W. Heinrich and others' No. 2 John C. Howe farm, Section 3, struck water in the Berea from 250 to 310 feet, found a light gas volume in the Brown shale and at last reports was drilling at 925 feet.

Arthur & Reeves are shut down at 4,100 feet for casing in No. 1 N. Kandle farm, Section 36, Green Township, Summitt County.

INDIANA

Only two completions were reported from the Indiana fields, one a large producer and the other a dry hole. The producer was drilled by the Big Four Oil & Gas Co. in the northeast corner of the Robert Huey farm, SE Section 18, Washington Township, Gibson County, with an initial output of 200 bbls. from 1,258-66 feet. No. 2 same farm, is a new location. Same company is drilling No. 3 Lottie Hope, SE same section, and Gib Van Oil Co. is drilling No. 5 Agnes Haskins, SE same section. Knox Engineering Co. is reported drilling No. 2 Chas. C. Steele, NE NE Section 22, Columbia Township, same county, where No. 1, same farm, showed a gas flow of 16,600,000. Wabash Public Service Co. is also reported drilling No. 3 G. B. Allen, NE Section 22, same township, where the last completion on the farm showed a gas flow of 7,000,000 feet.

Chas. L. Divers No. 3 and others are reported drilling No. 4 G. Robling, Section 14, Logan Township, Pike County. Cato Gas & Oil Corp. is working on No. 3 well on the Everette Crow, Section 25, Patoka Township, same county.

The wildcat venture of H. J. Hauck and others on the John Siddles, SW Section 4, Lincoln Township, Laporte County, in the Kankakee Valley, northeast

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Turner Valley Control Board Formed

To Reduce Gas Waste to About 170,000,000 Feet Daily. To Make Thorough Survey of Field and Consider Unit Operation

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, May 7. — The new Turner Valley Gas Control Board has been organized with headquarters in Calgary, and steps are being taken to reduce the gas flow of the entire field to a maximum of 200,000,000 feet a day. The field may operate on this maximum for the coming six months, but it is expected that ultimately the flow will be further reduced to 100,000,000 feet. The control board comprises Dr. R. C. Wallace, president of the University of Alberta; Judge A. A. Carpenter, chairman of the Alberta Public Utilities Commission, and John McLeish, of the federal mines department at Ottawa. Doctor Wallace is chairman. Frank P. Fisher of Mount Vernon, Ohio, who has been technical advisor of the Alberta provincial government, will assist the commission in the preliminary stages of its work.

The conservation measures instituted this month will reduce the gas wastage from the field to about 170,000,000 feet a day. At one time the wastage reached a peak of nearly 600,000,000 feet and latterly it has been around 400,000,000 feet. The reduction will be carried out gradually, and in accordance with the advice of experts.

The first work of the control board will be to conduct a thorough survey of the field, all wells being systematically tested for flow and pressure. In connection with this work, some 25 large meters have been secured and will be put into service within the next week or two. Tests of the field are expected to take between two and three months; after which the adjustment of compensation to interests detrimentally affected by conservation measures will be determined and a permanent policy of unit operation will be worked out, either by voluntary agreement of the interests concerned, or by the control board on its own initiative.

Twin River Test

In the Border fields east of Coutts, Parco Oil Co.'s No. 1 Twin River, LSD 16, Section 34-1-20w4, is reported cleaning out after its second shot. This test is the southernmost of three wells which last fall got shows of high-grade crude in the top of the Madison lime. The well tested around 10 bbls. a day natural bailing production. A small shot at around 3,870 to 3,890 feet failed to increase this, so a larger shot was put in last month. This appears to have increased the flow of oil, though actual production cannot be determined till the hole is cleaned out and put on the pump. There are around 20 to 25 feet of caving and the pipe was somewhat jammed by the shot, but no difficulty is anticipated in cleaning out.

Central Turner Valley

In Central Turner Valley, Canada Southern's No. 3, LSD 16, Section 1-20-3w5, which is being finished by Hugh Walsh and W. E. McLeod, is reported drilling below 4,310 feet, more than 500 feet in the Madison lime with a definite increase in wet gas flow and potential crude naphtha recovery. It is planned to continue drilling to around 4,500 feet.

McLeod Oil Co.'s No. 4, LSD 16, Section 1-20-3w5, which formerly had a fair production in a lower horizon of the lime at 5,250 feet, has been deepened to below 5,305 feet in an effort to restore production. McLeod's No. 1, same LSD, is sidetracking lost tools about 40 feet off the old bottom in the lime and making considerable wet gas production.

Dome Oils' No. 2, LSD 16, Section 36-19-3w5, which was shot after being carried to 5,390 feet is cleaning out in the lime around 5,325 feet.

North Turner Valley

In North Turner Valley, Model Oils' No. 2, formerly Anaconda Oil Co.'s No. 1, LSD 16, Section 22-20-3w5, is reported drilling around 3,700 feet, corrected depth, and at the bottom of the Dakota formation. Location is a half mile north of Model's No. 1 in LSD 8, same section, which has a good crude oil production from the Madison lime at 5,905 feet. No. 2 will be carried to the same horizon in the lime.

South Turner Valley

In South Turner Valley, Wellington Oil & Gas Co.'s No. 1, LSD 1, Section 20-19-2w5, is reported to be maintaining the wet gas flow, estimated 32,500,000 feet a day, recently encountered on deepening in the lime. The crude naphtha recovery is reported comparatively small, running less than 100 bbls. a day.

In the Mercury tract, Section 4-19-2w5, Miracle Oils' No. 3, LSD 11, is fishing for drill rods lost when the derrick burned. The hole is near completion in the lime at 6,150 feet with some crude oil production indicated.

Hylo Oils' No. 1, LSD 12, same section, is reported cemented at 5,501 feet, in the top of the lime.

Mayland Southern Test

In the border fields, Mayland Southern's No. 1, LSD 13, Section 4-1-9w4, which has been standing at 2,750 feet since last fall, is expected to resume within a week or two. The test was started last year by A. H. Mayland and other operators previously associated with him in Turner Valley development. The location is east of Coutts, on the Alberta end of the Reserve Dome. This structure extends a considerable distance north into Alberta and south into Montana. On the south end of the structure, no drilling has been done at all close to the Mayland Southern test, but tests farther east and farther west on the Montana side have shown strong indications of commercial gas production, while structures south of the Reserve Dome have given good oil indications.

Mayland Southern's No. 1 at 2,750 feet is a commercial gasser with production from three main horizons aggregating around 11,000,000 feet open flow. The test is being continued for oil, and a potential horizon is looked for around 3,000 to 3,100 feet. The production ap-

pears to be an extensive one, and if oil is encountered, both Montana and Alberta interests will become active on adjacent holdings. Resumption has been delayed by difficult road conditions.

Red Coulee Field

On the Montana end of the international Red Coulee structure, Askalta Oils' No. 3 Farbo is reported installing machinery. The two Askalta producers are reported maintaining a satisfactory production, with deliveries around 900 bbls. a month. The new line of the Coutts Pipe Line Co. is making steady deliveries from the Red Coulee Field to refineries at Coutts, Alberta.

On the Canadian end of the structure, Devonshire Petroleums' No. 1, LSD 3, Section 10-1-16w4, is reported drilling.

Manitoba Gas Test

In the Manitou district, southwestern Manitoba, Commonwealth Petroleums' No 2, LSD 2, Section 26-2-9-wPM, is reported steadily below 1,900 feet.

British Columbia Drilling

In the Kelowna district, British Columbia, Okanagan Oil & Gas Co.'s No. 1, east half Section 2-26-Osoyoos, which resumed some weeks ago, is reported drilling in a marine limestone below 2,450 feet. Some gas is coming up through the column of water in the hole, and there are traces of oil.

Northern Oil Prospects

The prospective reopening of the Fort Norman oil field to supply the fuel needs of mining operators in the Great Bear Lake area, has drawn attention to oil prospects in other portions of the far north. These prospects were recently discussed by Dr. Allan E. Cameron of the University of Alberta, in relation to the territory south and north of Fort Norman, along the Mackenzie, as well as eastward to Great Bear Lake. According to Doctor Cameron, geological investigation indicates that in the Mackenzie Valley itself there are a number of points where conditions are favorable to oil.

In the Franklin Mountains, near Wrigley, the middle Devonian limestones, the possible oil reservoir rocks, are largely without capping, the upper Devonian shales having been removed by erosion. Thus the area, though anticlinal, is unsuitable for the accumulation of petroleum.

East of the Franklin Mountains is a broad syncline followed by a gentle monocline. On these flat-lying beds should be superimposed smaller closed structures in which oil could accumulate. Upper Devonian shales would form a caprock and middle Devonian limestones are sufficiently porous to provide an oil reservoir.

North of the Great Bear River the structures are more complex due to the superposition of two crustal movements. The broad depression carrying the Brackett Lakes closely parallels the Mackenzie Valley. This may, like the Mackenzie, be underlain by Cretaceous rocks, though Doctor Cameron believes it is largely Paleozoic. In the latter event the presence of the large lake basins suggests shales or shaley horizons. The oil at Fort Norman occurs in sandy beds underlying a thick shale series of the upper Devonian ages, and if this series is present in the Brackett Lake valley, it should hold possibilities for oil.

Northeast of the Brackett Lake Valley the conditions are practically unknown. There is a possibility that the superposition of two major crustal movements may have developed closed structures suitable for oil accumulation; but the most that can be said is that the general area is well worth investigation. The more easterly portions of the area, closer to Great Bear Lake, and particularly the broad peninsula between Keith and Smith arms of the lake, are regarded as particularly favorable for oil.

Taken as a whole, the large areas lying east of the Mackenzie River Valley are so situated with respect to the crustal disturbances farther west that there should be suitable structures at a number of places. In the south half, upper Devonian shales should form a capping and middle Devonian limestones should form the reservoir rocks, the latter being known to be petroliferous over a wide area. In the north, the oil so far has come from upper Devonian horizons. Drilling depths should not exceed a maximum of about 3,000 feet.

The mining development now in prospect may ultimately stimulate the testing of areas east of the Mackenzie and west of the mineral area which is largely on the east shore of Great Bear Lake. For the immediate future, the Fort Norman Field, about 350 miles distant by convenient waterway from the mining area, will likely be the source of oil supply.

Oil Springs Gasser

In the Oil Springs Field, Lambton County, Ontario, Sarnia Oil & Gas Co., headed by Leo Wilson, has finished cleaning out and shooting the once-famous Fairbank gusher a short distance southeast of Oil Springs. This test, drilled about the year 1914, was the discovery well of the Oil Springs deep gas field. It was put down on the Fairbanks oil property as a deep test for oil, and at 1,912 feet encountered a big gas flow, estimated at 24,000,000 to 30,000,000 feet a day. The gas was piped to Oil Springs by the Oil Springs Oil & Gas Co. which secured a franchise for the village and had been partly instrumental in drilling the discovery well. Later, the production declined quite rapidly. The well was deepened to 1,922 feet without bringing it back. A couple of years ago the Sarnia Oil & Gas Co. made arrangements with the Oil Springs Oil & Gas Co. to deepen and clean out its old wells, when the Fairbank well was drilled somewhat deeper without securing any important production. It was then plugged back and shot in the original pay with about 250 pounds of dynamite, securing a flow estimated at 6,500,000 feet a day. The well has been capped. The location is closed to the site of the famous Shaw gusher drilled in 1862 and in the heart of the old Oil Springs Field. It is reported that a second test is under way and a third has been spotted.

Ontario Drilling

In Euphemia Township, Lambton County, Lambton Oil & Gas Syndicate's No. 1, Milton Walker farm, SW Lot 28, Concession 9, is reported to show a steady pumping production of 35 bbls. a day from the upper lime at 308 feet. No. 2 well, NW Lot 27, Concession 9, 530 feet east and 100 feet south of No. 1, is drilling at 370 feet and looks like a dry hole. Drilling is being handled by Dan Willetts of Bothwell. Most of the land within a radius of several miles from No. 1 has been leased, and it is reported that tests will be drilled in other directions from the discovery well.

In Brooke Township, Michigan-Pacific Oil & Gas Co.'s No. 1, Lot 10, Concession 12, is reported shut down at 2,531 feet and will likely be abandoned.

In the Dawn Field, Lambton County, Dawn Oil & Gas Co.'s No. 1, Lot 25, Concession 9, Sombra Township, is pulling casing after finishing dry at a final depth of 2,150 feet. The location was apparently off structure. Tentative location has been made for Dawn's No. 2 near the eastern limit of the company's acreage, and somewhat south and east of No. 1. It is expected that a total of at least three tests will be drilled.

In the D'Clute Field, Kent County, Union Gas Co.'s No. 20 D'Clute, Lot 21, Concession 10, Raleigh Township, is drilling around 305 feet.

Farther west, in the old Tilbury Field, Ralph Dawson's No. 3, Lot 3, Concession 15 Tilbury East, has started drilling on a test of the Tilbury gas sand.

Texas-Imperial Tests

In the Border fields, southern Alberta, a statement by J. H. McLeod, western production manager of Imperial Oil, Ltd., refers as follows to the joint Texas-Imperial No. 1 test on the Lethbridge structure in LSD 13, Section 22-8-22w4, which was abandoned some time ago after striking salt water:

"An authorized representative of Lethbridge Petroleum and Lethbridge Leases in the person of I. W. Deman lived at the site during the critical period, had access to the rig and was supplied with daily drilling reports. The drilling site selected by the two major companies was approved by a geologist acting for Lethbridge Petroleum and Lethbridge Leases.

"W. Calder, government representative, did not favor the Texas and Imperial companies in any way. The well was cemented at 2 feet above the limestone. After drilling through the plug, no oil was penetrated from 4,552 to 4,526 feet, indicating that the thickness of the oil-bearing porous zone was only 1 foot. A minor amount of water was obtained at 4,562 feet and a large flow at 4,572 feet. Drilling stopped at 4,578 feet.

"Directors of Lethbridge Petroleum and Benton Oils informed Imperial and Texas companies that they were perfectly satisfied with the manner of drilling and the procedure followed in making the test.

"Due to the disappointing result, the Imperial company did not feel that any further expenditure required for drilling further wells was justified."

Texas Oil Co. of Canada, which was jointly interested with Imperial Oil, Ltd., in the test, announced some time ago that it would not undertake any further drilling on the structure.

CENTRAL WEST FIELDS

(Continued from Preceding Page)

extension, and about 7 miles south of New Carlisle, has been abandoned as a failure, after several months of work. Gas was struck in this hole at 365 feet; of the Trenton lime at 1,400 feet, oil showing at 1,450 feet and drilled to 1,515 feet. The well was shot at the 1,450-foot showing, but not enough oil was found to even try to pump it.

ILLINOIS

No completions were reported from the Illinois fields and very few wells are under way in any of the old-time producing counties. In St. Clair County, in the southwestern part of the state, Hugo and others abondoned No. 1 Stein, in East Carondelet area. Robinson and others also abandoned No. 1 Henry Dixon lease, same area. In the Millstadt area, Joseph May and others are drilling No. 1 Theodore Stutz, Section 13, same county, and Cain & Pollock are drilling No. 1 George Stolberg, Section 28, Sugar Loaf Township, St. Clair County.

In the old Illinois Field proper a few wells are under way. W. D. McColpin and others are drilling No. 1 J. B. Weiland, Section 3, Embarras Township, Edgar County, to the north side of the old Westfield Field. In Coles County, Walter Cline has a fishing job at 860 feet on the A. D. Hildreth, Section 27, Lafayette Township. H. V. Daugherty is reported working in the NE NE Section 21, Pleasant Grove Township, same county.

In Clark County, Westfield Township, A. M. Myers and others are working on the R. Endsley, Section 32, and in Casey Township, same county, Tilford & Morrow are drilling No. 1 W. B. Johnson, Section 36, and Stifal and others are drilling on the John Lawrence, same section and township.

KENTUCKY

In Ohio County, Hainesville Pool, Cumberland Petroleum Co.'s No. 5 on the David Brooks 120 acres, reported with an initial of 50 bbls., and No. 6 same farm is drilling.

In Hart County, Rock Hill district, J. M. Murphy and others' Nos. 1, 2 and 3 Turnham farm, reported as good for 30 bbls. each initial; No. 3 said to show 35 bbls., and No. 4 around 25 bbls. a day. Carpenter and Frost's test on the Garvin farm, just south of Green River in the Logsdon Valley area of the county, reported with 1,000,000 feet of gas, at a depth of 545 feet, but may go deeper for oil in the near future.

In the Barboursville Field of Knox County, Wittmer Oil & Gas Co. has a gas well reported for 1,000,000 feet on the Carnes farm, at a depth of 2,000 feet, and the Petroleum Exploration Co.'s test on the Campbell farm, same county, showed equally as large from a depth of 1,200 feet.

Chas. C. Taliaferro, Jr., struck a nice gas pocket at a depth of 330 feet on the Larkin Key farm, 1½ miles north of Bonneville, in northwestern Hart County, and possibly will go deeper in hopes of finding oil. Mr. Talliaferro is an old-time Indiana operator. At the shallow depth, the well showed a volume of 350,000 feet.

No report was received from two drilling wells in Cumberland County. They are the C.M.&H. Oil Co.'s No. 1 L. V. Shelly farm, along State Highway 90, 3 miles west of Burkesville, and the Archie McGuire and others test, along Highway 90 west of Burkesville, at the head of Marrowbone Creek.

In Daviess County, D. J. White and others are drilling No. 4 on the Edward Bickett 90 acres, and Samuel T. McGill and others are drilling No. 1 on the Ashwood heirs farm.

Pearson Petroleum Co. of Columbus, Ohio, with J. W. Pearson, president, has closed deals in the Legrande Field of Hart County running in excess of $100,000. Included is the purchase of Rivers Oil Co., Legrande School House property, Liberty School House lease, Goebel Riordan lease, also the W. M. Hensley lease from Dr. S. J. Sirmons, and the A. J. Edwards 25-acre lease. There are approximately 25 producing wells on these leases and arrangements are being made to further develop the holdings. This company is also interested in holdings in the Logsdon Valley section, same county.

GULF COAST FIELDS

(Continued from Page 64)

deeper in exploration for possible lower oil sands.

Gueydan Dome

Pure Oil Co. has made location for a fifth test on its Gueydan Dome, Vermillion Parish, Louisiana. The new test, No. 1 Mulvey Irrigation Co., is 253 feet south and 390 feet east of No. 2 Alliance Trust Co., completed April 22 in a sand at 3,532-52 feet as the discovery well. Although making now as much as 55 per cent water, the latter well is still producing more than 200 bbls. net oil daily, which is being shipped by tank car to the company's refinery at Smith's Bluff, south of Beaumont. A temporary line was laid from the well to the railroad at the town of Gueydan, a distance of only a few miles.

Blue Ridge Dome

Among abandoned tests reported during the week was Gulf Production Co.'s No. 19 Luscher, deep test on the southeast side of the Blue Ridge Dome, Fort Bend County. This test went into heavy shale to a total depth of 5,162 feet. Interest also was centered on Blue Ridge with the acquisition by the Humble Oil & Refining Co. of 2,016 acres from Bassett Blakely, the land being in the Ed Drew, J. Pointevant, Charles W. Adams and John Lafayette Surveys. Most of this lies to the east of Blue Ridge and extends into Harris County.

TEXAS HEARING IN OCTOBER

The Supreme Court of the United States consented to hear the claim of Gov. R. S. Sterling, of Texas, as to his authority to declare and enforce martial law in the East Texas oil field in an appeal from the decree of a Federal court in Texas. The hearing of cases having been suspended for the present term, oral arguments in this case will not be presented until the next term of the court, after October 1.

TRINIDAD SEEKS PREFERENCE

NEW YORK, May 9.—Trinidad representatives at the Ottawa conference of British dominions and colonies this summer will present a resolution asking that the United Kingdom extend protection to oil-producing and refining interests in Trinidad and other British colonies and dominions. It is expected that other British producing and refining interests will back the Trinidad proposal.

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Fifteen New Locations in Zwolle Area

Three New Wildcat Tests in Alabama and Three in North Louisiana. Dry Hole in Selby County, East Texas Border

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., May 9.—This division had only four completions during the past week, consisting of three oil wells from the Zwolle Field in Sabine Parish and one dry hole from Shelby County, East Texas. The small number of completed wells was offset by 15 new locations in the Zwolle area, and six new wildcat tests started, three of which were in Alabama and three in North Louisiana.

Beene and others' No. 1 Ezernack, Section 2-7-13, on the western flank of the Zwolle Field, was officially completed flowing, 75 bbls. per hour through three-quarters-inch choke from 2,400 feet. The flow is pure pipe line oil with no salt water present as is common in this part of the field. Ben Merritt, trustee's No. 3 Byrd, Section 1-7-11, in the eastern part of the field, had an initial flow of 115 bbls. daily from 2,440 feet. In Section 13-7-11, Skully and Beach's No. 1 Lafitte was completed at 2,550 feet flowing 200 bbls. daily. In Shelby County, East Texas, H. H. Gracey's No. 1 Morrison, William English Survey, was abandoned at 2,605 feet. This test has been shut down at this depth since July of last year.

Two wildcats in Alabama are already drilling and one is rigging up. In Lamar County, the Vernon Oil & Gas Corp.'s No. 1 Gardner, Section 22-15s-16w, is drilling at 865 feet. This county is in the northwestern part of the State, and adjoins Monroe County, Mississippi, on the east. The latter county in Mississippi experienced some of the first wildcatting in that district and produced several small gas wells near Amory. In the southwestern part of the State, the Tidal Oil Co. and others are drilling in Selma chalk at 801 feet on their No. 1 Hobson, Section 33-6n-2e. To the west of this test in Washington County, the South Alabama Oil & Gas Co. is rigging up on its No. 1 Wilson in Section 26-7n-1w.

North Louisiana

North Louisiana continues to be the most active district in this division with Sabine and adjoining parishes reporting most of the new operations. De Soto Parish, bordering Sabine on the north, will have two new wildcat tests on large blocks within the next few weeks. Whitson and Blanchard have assembled a block centering around Section 35-11-14, and have contracted to drill a 3,500-foot test to begin by July 1. Two miles west of Mansfield, Gene Smith is assembling a 12,000-acre block with a drilling clause calling for a Trinity test or to a total depth of 5,000 feet unless pay is encountered. Carnahan and others have taken over 3,500 acres of leases in Bienville Parish from Coyle Brothers with a contract to begin a well not later than June 1. The test will be in the vicinity of Coyle Brothers' No. 1 Lawhon, Section 15-16-8, which was junked and abandoned in May of last year after casing collapsed on bailing with the total depth at 2,866 feet. The Coyle test reported a good show of oil and gas from 2,845-66 feet. Six-inch casing was set for a test, but the casing collapsed after bailing down only 1,600 feet.

H. W. Perritt and others have started two wildcats in the western part of Natchitoches Parish near the Sabine Parish line, their No. 2 Brown Lumber Co., Section 29-8-9, has set 12½-inch casing at 102 feet, and No. 1 Cook, Section 3-8-9, has set 12½-inch at 105 feet. There are now five tests being drilled in this vicinity, known as the Marthaville area, and which many operators believe to be located on a shore line structure similar to the one on which the East Texas Field is located. George LeGrand's No. 1 McGough, Section 2-8-10, in this area, has set 10-inch casing at 100 feet, and the Southland Drilling Co. has spudded in on its No. 1 Frost Lumber Co. in Section 13-9-11. The latter test is one of two to be drilled by this company on a 14,000-acre block north and west of Marthaville. Derrick is up for No. 1 Ross-Olive, Section 10-9-10. The latter test is located in Natchitoches Parish, but No. 1 Frost Lumber Co. is in Sabine Parish. The entire block of acreage was assembled by W. M. Coates, president of the Southland Drilling Co., who drilled a wildcat south of Marthaville last year, resulting in a good show of oil and gas around 4,000 feet.

Louisiana Wildcats

None of the wildcats developed anything of interest on test during the past week. In the western part of Ouachita Parish, near the Jackson Parish line, Wilson & Mitchell's No. 1 Williams, Section 5-16-1e, tested dry at 2,936 feet and tested salt water with a small show of gas at 2,950 feet. The crew is coring at 3,018 feet. R. L. Gay, trustee's No. 1-A Long Bell Lumber Co., Section 10-8-13, a deep test northwest of the Zwolle Field in Sabine Parish, is coring shale at 5,073 feet. Another deep test in the field, proper, the Loring Oil Co.'s No. 18 Bowman-Hicks, Section 15-7-12, is drilling at 4,750 feet after sidetracking stuck drill stem at 4,480 feet. The test had reached a total depth in the old hole of 4,850 feet. J. K. Wadley has set 6⅝-inch casing at 2,795 feet in his No. 1 Matthews, Section 11-23-9, in the northern part of Webster Parish. In De Soto Parish, near Grand Cane, Warren & Craig's No. 1 Phillips, Section 33-13-14, seems destined to be dry around the 3,000-foot level where the pay was expected. The last core from the test was sandy shale from 3,093 feet. Carter-Bell's No. 1 Taylor, Section 17-14-4, in Caldwell Parish, after testing salt water at 2,488 feet, cored Wilcox sand at 2,597 feet. In the Spring Ridge area south of Pleasant Hill, Frank Foster, Inc., has killed the gas flow in its No. 1 Stevens, Section 20-9-11, and is coring below the old total depth of 3,358 feet. It is not known at this writing what the cores reveal, but the operators are confidently expecting to pick up an oil bearing sand underlying the gas pay. A few miles north and east of the Foster gasser, J. M. Bridges topped the chalk at 1,559 feet in his No. 1 Armstrong, Section 28-10-11, and is drilling in chalk at 1,750 feet. In the Greenwood gas area, western Caddo Parish, the Pyramid Oil & Gas Co. is arranging to make a drill stem test in its No. 2 Breard, Section 9-18-16, with the total depth at 2,757 feet.

East Texas Border

The East Texas border county wildcats are practically at a standstill, but with the likelihood of several in Harrison and Marion Counties being abandoned as dry within the next week. The Medders-Gochee's No. 1 Davidson, R. W. Starr Survey, in Harrison County, is still shut down with arrangements being made for casing to make a test of 7 feet of broken sand formation encountered from 3,702-09 feet. The total depth of the hole is 3,738 feet with the top of the Georgetown lime at 3,711 feet. In Marion County, the Baunoch Development Co.'s No. 1 Miller, H. Fulgram Survey, stands temporarily abandoned at 4,120 feet. In the same county, Benedum & Trees' No. 1 Bertha Tyler, William Holloway Survey, is reported to have topped the Georgetown at 3,600 feet with the total depth at 3,600 feet. One new location was reported for Marion County during the past week. Purcell and others' No. 1 M. L. Coker, M. Reed Survey. The test is 1½ miles west of Jefferson. In the southern part of Panola County, Root-Skinner's (formerly Moses & Wallace) No. 1 Danile, Isabelle Hanks Survey, is drilling at 560 feet.

Arkansas Operations

Fitzwater and others' No. 1 Beck, Section 33-15-26, Miller County, Arkansas, is drilling at 2,820 feet, and in Union County, the Pigeon Hill Oil Co.'s No. 1 Union Sawmill Co., Section 19-17-12, is drilling at 240 feet. In the same county, the Southern Production Co.'s No. 1 Wingfield, Section 16-19-15, cored 8 feet of sand showing oil from 3,593-3,601 feet, but cored salt water sand from 3,601-06 feet.

Daily Average Runs

The fields of North Louisiana and Arkansas registered a net decrease of 695 bbls. in the daily runs during the past week, the former declining 345 bbls. and the latter 350 bbls. The daily average runs from the several pools were:

NORTH LOUISIANA	
Caddo, light	5,375
Caddo, heavy	2,085
Cotton Valley	525
De Soto and Red River	1,965
Elm Grove	240
Haynesville	4,450
Holly	285
Homer	2,940
Pleasant Hill	320
Sarepta-Carterville	330
Urania	3,600
Zwolle	7,080
Total North Louisiana	29,695
Total previous week	30,040
Decrease	345
ARKANSAS	
Champagnolle	1,940
El Dorado	3,070
Lisbon	510
Nevada	1,160
Smackover, light	2,950
Smackover, heavy	23,640
Stephens	630
Urbana	690
Total Arkansas	34,590
Total previous week	34,940
Decrease	350
Total both states	64,285
Total previous week	64,980
Decrease	695

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Company, well, farm name, section and block—	Remarks:
Stauffer & Eshleman's No. 1 Caruth, Sec. 40-1n-7e	Derrick.

BOSSIER PARISH

Dr. W. N. Hankins' No. 1 Newell, 300 ft. S and W, NE cor., Sec. 12-19-11	Coring 1,890 ft.

CADDO PARISH

Pyramid O. & G. Co.'s No. 2 Beard, Sec. 9-8-16, 660 ft. S, 1,980 ft. W, NE cor. Sec.	Testing 2,757 ft.

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4	Coring Wilcox sand 2,597 ft.
Hudson et al's No. 1 Burton, Sec. 35-12-3e	S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6	T.A. 3,097 ft.

DE SOTO PARISH

Donley & Chastain's No. 1 H. Smith, 325 ft. W, 600 ft. N, SE cor., Sec. 31-14-15	Waiting on D.S. 2,295 ft.
E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15	Coring hard lime 3,446 ft.
A. R. Smith's No. 1 Horn, Sec. 16-12-16, NE cor. Sec.	Rigged up and S.D.
DeSoto Dev. Co.'s No. 1 Nickey, Sec. 7-13-12	Derrick.
Standard Oil Co. and Pelican Nat. Gas Co.'s No. 1 Sutherlin, 320 ft. N, 260 ft. W, SE cor. SW, Sec. 19-12-14	Derrick.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13	Tested dry 1,675 ft; S.D; W.O.
Warren & Craig's No. 1 Phillips, 450 ft. N, 250 ft. E, SW cor. NE, Sec. 33-13-14	Coring sandy shale 3,093 ft.

GRANT PARISH

Security Pet. Corp.'s No. 1 Swope est., Sec. 16-9-1e, 1,698 ft. N, 220 ft. E, SW cor. Sec.	Coring 1,540 ft.
O. Robichaux's No. 1 T. M. Bradford, 1,870 ft. E, 314 ft. S, NW cor., Sec. 16-9n-1e	Location.

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 2 Sandidge, Sec. 11-20n-4e, 656 ft. S, 1,332 ft. W, NE cor. NW	Comp. 7,500,000 ft. gas 2,170 ft.

NATCHITOCHES PARISH

W. M. Coates' No. 1 Ross Olive, Sec. 10-9-10, 660 ft. S and E from cen. of Sec.	Rigging up.
Dr. H. S. Gerson's No. 1 Smith, Sec. 11-10-8, 2,000 ft. N, NE cor. of irregular Sec. 10, in Sec. 11	Waiting on 8-in. csg. 1,000 ft.
R. A. Keaton's No. 1 Stephens, Sec. 25-10-6, 320 ft. N and W, SE cor. NW NW	S.D. 1,500 ft.
H. W. Perritt's No. 1 Cook, 165 ft. E, 105 ft. N, SW cor. NE SW, Sec. 3-8-9	Set 12½-in. 102 ft.
H. W. Perritt's No. 2 Brown Lbr. Co., 300 ft. N and W, from center Sec. 29-8-9	Set 12½-in. 105 ft.

OUACHITA PARISH

Wilson & Mitchell's No. 1 Williams, Sec. 5-16-1e, 330 ft. E, 240 ft. S, NW cor. SW SE	Coring 3,018 ft.

RED RIVER PARISH

C. F. Davis' No. 1 Pierson, 500 ft. S, 317 ft. E, NW cor. SW NW, Sec. 12-14-11	Location.
La. Oil Dev. Co.'s No. 3 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11	Spudded and S.D. 50 ft.

RICHLAND PARISH

National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18n-7e	S.D. 2,515 ft.

SABINE PARISH

Beene et al's No. 1 Ezernack, Sec. 2-7-13, 1,070 ft. S, 250 ft. W, NE cor.	Comp. flowing 2,000 bbls. 2,400 ft.
R. W. Boulding's No. 1 Williams, Sec. 17-7-10, 200 ft. S and E, NW cor. SW NE	Set 10-in. 106 ft.
J. M. Bridges' No. 1 Armstrong, 360 ft. N, 320 ft. E, SW cor. SE, Sec. 28-10-11	Drlg. chalk 1,750 ft.
Broderick & Calvert's No. 1 Costello, Sec. 2-7-14, 375 ft. S, 150 ft. W, NE cor. SE NW	S.D. 150 ft.
W. M. Coates' No. 1 Stille, 330 ft. N, 660 ft. W, SE cor., Sec. 35-8-13	Derrick.

(Continued on Page 80)

GULF COAST FIELDS AND WILDCATS

(Continued from Page 64)

Texas Gulf Prod. Co.'s No. 10-B Kirby, Henry Griffith League, 450 ft. E of No. 9-B and 250 ft. S of N line ..... Derrick.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 15 Mayes, E. Wallis Sur., 450 ft. NE of No. 11 and 450 ft. NW of No. 14 ..... Coring sticky shale 1,704 ft.

BLUE RIDGE—FORT BEND COUNTY

Coronado Oil Co.'s No. 3 Blakely, 200 ft. E of No. 2 in Lot 9, Blk. D, E. Drew Sur. ..... Drlg. shale and lime 3,255 ft.

Gulf Prod. Co.'s No. 19 Luscher, Thos. Habermacher Sur., 1,650 ft. from N line and 550 ft. from E line of 490-acre tract ..... Heaving shale 5,162 ft; abd.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co. and Humble Oil & Ref. Co.'s No. 2 Booth, Samuel Kennedy Sur., 475 ft. from S line and 600 ft. E of No. 1 ..... Sand showing oil 5,002 ft; cmtd. 7-in. (O.D.) csg. 4,972 ft.

Gulf Prod. Co. and Humble Oil & Ref. Co.'s No. 3 Booth-Meyers, John Rabb Sur., 1,500 ft. E of No. 2.. Derrick.

Gulf Prod. Co. and Humble O. & R. Co.'s No. 1-B Booth, Samuel Kennedy Sur., 445 ft. N of S line due N of No. 1 T. R. Booth..... Location.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 1 Hampil (D.D.), Robt. Peebles Sur., 350 ft. S, 975 ft. E, SW cor. A. P. George 619-ac. tract..... T.D. 5,412 ft; plugged to 5,383 ft; set 234 1/6 ft. of screen and 5,369 ft. of 2½-in. tubing; comp. flowing 300 bbls. fluid, 60% b.s. and wtr., ⅝-in. choke.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 2 Davis, Robt. Peebles Sur., 2,483 ft. E, 150 ft. S of NW cor. of 1,000-ac. tr. ..... Location.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 3 Lockwood, John Rabb Sur., 1,000 ft. due E of No. 2 ..... D.S. stuck 4,575 ft.

Humble Oil & Ref. Co. and Gulf Prod. Co.'s No. 2-B Lockwood & Sharp, John Rabb Sur., 816 ft. W of No. 1-B ..... Drlg. shale and lime 4,525 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 5-A Lockwood & Sharp, J. Rabb Sur., 1,000 ft. W, 300 ft. N of SE cor. of Tr. 2 (469.3 ac.) ..... Location.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 3-B Lockwood & Sharp, J. Rabb Sur., 1,000 ft. from E line and 300 ft. from N line of Tr. 1 (938.75 ac.).. Location.

The Texas Co.'s No. 1 Wolters (M. H. Gubbels), Samuel Kennedy Sur., 742 ft. from W line, 100 ft. from S line of 100-ac. tract ..... Rig.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 27 Cade, N. Fitzsimmons Sur., 600 ft. N of No. 21 in line with Nos. 22 and 23 ..... Sand 5,312-49 ft; set screen.

Yount Lee Oil Co.'s No. 28 Cade, N. Fitzsimmons Sur., 600 ft. S, 150 ft. E from No. 26..... Drlg. gumbo 525 ft.

Yount Lee Oil Co.'s No. 1 Broussard & Orme, 300 ft. E of N cor. of N. Fitzsimmons Sur., in Martin Dunman Sur. ..... Drlg. shale and lime 5,905 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 135-A Cotton..... Sand 529-49 ft; bailing.

HUMBLE—HARRIS COUNTY

Cullen & West's No. 4 Burt, J. B. Stevenson Sur., 50 ft. NW of No. 3 in line with No. 2 ..... Drlg. gumbo 1,695 ft.

J. D. Clay's No. 1 Bender, Robert Dunman Sur., 200 ft. from W line and 100 ft. from S line of 100-acre tract ..... Drlg. shale 1,005 ft.

Rio Bravo Oil Co.'s No. 7 fee (W.O.), 216 ft. W line, 50 ft. S line, 22-ac. tract, Bender South Addn., Adams Sur. ..... Bailing 4,178 ft.

Sun Oil Co.'s No. 52 River, Robt. Dunman Sur. ..... Rigging up to pump 1,477 ft.

Sun Oil Co.'s No. 51 River, Robert Dunman Sur., 130 ft. S of No. 50 ..... Comp. pumping 35 bbls. daily 1,406 ft.

The Texas Company's No. 24 W.&P. fee, J. B. Stevenson Sur., 50 ft. from W line and 50 ft. from S line... Drlg. sticky shale 1,444 ft.

PIERCE JUNCTION—HARRIS COUNTY

Abercrombie & Harrison's No. 2 Ritter (D.D.), Jas. Hamilton Sur. No. 51 ..... Drlg. 4,620 ft.

Anderson & Plummer's No. 7 Whitehead, Jas. Hamilton Sur. No. 51, 248 ft. S of No. 4 and 304 ft. from E line ..... No report.

Navarro Oil Co.'s No. 3-A Cain (W.O.), Jas. Hamilton Sur. No. 98; 75 ft. from S line and 50 ft. from W line of "A" lease ..... Set 30 ft. of 4½-in. screen 4,563 ft.; comp. pumping 150 bbls P.L. oil.

Pure Oil Co.-Moody Receiver's No. 3 Herman, Jas. Kopman Sur., 200 ft. due W of C of E line of 25-acre tract ..... T.D. 4,561 ft; sand 4,518-59 ft; set 44 ft. of 4¾-in. screen sealed to 6⅝-in. csg. seated at 4,509 ft., and 4,381 ft. of 2½-in. tubing; comp. flowing 775 bbls. P.L. oil, 330 lbs. pressure, 5/16-in. choke; 37.3 gravity.

Rio Bravo Oil Co.'s No. 7-A Settegast (D.D.), Jos. Kopman Sur. No. 44, 1,400 ft. NW along NE line from SE cor. "A" lease and 100 ft. SW at right angles... Drlg. shale 4,679 ft.

Rio Bravo Oil Co.'s No. 24-A Settegast, J. Kopman Sur. No. 44, 1,900 ft. S and 200 ft. W of NE cor. of "A" lease ..... Set 22 ft. screen 4,409 ft; swbd S.W.; pulling screen to deepen.

Rio Bravo Oil Co.'s No. 25-A Settegast, J. Kopman Sur. No. 44 (location check to come) ..... Derrick.

MYKAWA—HARRIS COUNTY

F. R. Flannigan et al's No. 2 Minnetex, 125 ft. from W line and 100 ft. from S line, Lot 251, Wm. J. Lovett Sur. ..... Drlg. gumbo 1,109 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 26 Esperson, C. W. Fisher Sur., 471 ft. from W line and 510 ft. N of No. 5 Esperson ..... Drlg. sand and shale 4,300 ft.

Cranfill-Reynolds Co.'s No. 5 Davis (D.D.), Kokernut Sur., 150 ft. from S line, 1,197 ft. from E line of tract ..... Pulled screen to deepen 2,285 ft.

Cranfill-Reynolds Co.'s No. 9 Moore's Bluff, M. Duncan Sur., 500 ft. S of N line of Moore's Bluff tract in line with No. 6 Davis and No. 6 Moore's Bluff ..... Location.

SOUTH LIBERTY—LIBERTY COUNTY

The Texas Company's No. 2 Pickett (D.D.), M. G. White Sur., 350 ft. W and 62 ft. S from NE cor. of 12.2-acre tract ..... Rig up to deepen 3,536 ft.

HULL—LIBERTY COUNTY

Hannah Oil Co.'s No. 1 Hannah, Jesse DeVore Sur., 100 ft. W of The Texas Co.'s No. 1 Hannah ..... Derrick.

D. & L. Prod. Co. and Bashara Oil Co.'s No. 1 Pevito, Jesse Devore Sur., 34½ ft. from E line and 30 ft. from N line of 5-acre strip ..... Preparing to set screen 4,205 ft.

Republic Prod. Co.'s No. 63-A Dolbear, Jesse Devore Sur., 50 ft. NW of No. 62 in line with No. 61 ..... Comp. gas well estimated 3,000,000 ft. daily; ⅝-in. choke.

MARKHAM—MATAGORDA COUNTY

Claude Hamill et al's No. 2 Northern Irrigation Co., I.&G.N. Sur., Blk. 9, Sec. 5, 50 ft. NW of No. 1..... D.S. test 3,504-16 ft; negative.

Powers Prod. Co. and Hamill & Hamill's No. 2 N. R. Meyers (18-ac. tract), Wm. Hadden Sur., 240 ft. E of No. 1 ..... T.D. 3,200 ft; rebuilding derrick.

The Texas Company's No. 1 Texas Pipe Line Co., Wm. Hadden Sur., Blk. 5, 50 ft. S and 50 ft. W of NE cor. of tract ..... Rigging up.

PORT NECHES—ORANGE COUNTY

The Texas Co.'s No. 3 Stark, 350 ft. E, 100 ft. N of SW cor. of Marshall Beauchamp Sur. ..... Location.

The Texas Co.'s No. 2 Kuhn (D.D.), 589 ft. W and 150 ft. S of NE cor. Mary E. Hall Sur. No. 2 ..... T.D. 4,412 ft.; plugged to 4,313 ft.; perforated csg. 4,302-97 ft.; set 16½ ft. of 4¾-in. screen; flowed initially 300 bbls., 6% b.s. and wtr., ⅜-in. choke; sand, mud and wtr. content increased to 60%; well killed to deepen.

ORANGE—ORANGE COUNTY

Sun Oil Co.'s No. 1 Belile (D.D.) ..... Drlg. 4,000 ft.

REFUGIO—REFUGIO COUNTY

E. M. Jones' No. 1-B Mitchell (D.D.), 250 ft. NW of SE line and 350 ft. SW of Mission River ..... Drlg. shale 8,700 ft.

Larco Gas Co.'s No. 5 Strauch, Refugio Town tract, Lot 6, Blk. 2, 100 ft. W of No. 2 ..... Drlg. 2,650 ft.

Pearson Properties' No. 2 Ryals (W.O.), 600 ft. from S line and 150 ft. from W line of lease ..... Drlg. sandy shale 6,645 ft.

United Prod. Corp.'s No. 3 W. J. Fox (D.D.), Wm. Hews & L. Brown Sur., 2,099 ft. NE along SE line from SE cor. of lease, thence 1,690 ft. NW at right angles ..... No report.

United Prod. Corp.'s No. 4 W. J. Fox, 2,600 ft. NE along SE line from SE cor. of Wm. Hews and L. Brown Sur, thence 1,420 ft. NW at right angles ... No report.

United Prod. Corp.'s No. 5 W. J. Fox, 2,150 ft. NE along SE line from SE cor. of Wm. Hews and L. Brown Sur., and thence 890 ft. NW at right angles ..... No report.

CLAY CREEK—WASHINGTON COUNTY

John Walker et al's No. 1 Henry Wendt, J. F. Perry Sur., 150 ft. from SW line and 405 ft. from SE line of tract ..... Drlg. 620 ft.

SOUTH LOUISIANA FIELDS

JENNINGS—ACADIA PARISH

Russell Campbell's No. 3 Syndicate (D.D.), 475 ft. S and 350 ft. W of NE cor. Sec. 41-9s-2w ..... No report.

Heywood & Heywood's No. 2 Jennings fee simple, 50 ft. N of SE cor. and 15 ft. W of E line of Lot 9, Sec. 46-9s-2w ..... Sand showing oil 1,810-25 ft; cmtd. 8-in. csg. 1,651 ft.

Kathleen Oil Co.'s No. 1 Syndicate fee (W.O.), Sec. 46-9s-2w ..... Sand showing oil 4,057-68 ft.

Reliable Oil Co.'s No. 2 Rawson (D.D.) ..... Drlg. gumbo 1,875 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Shell Petroleum Corp.'s No. 2 Heyd, 225 ft. out of NE cor. of Sec. 13-9s-7w ..... Set 24 ft., 11 in. of 5-in. screen 6,984 ft., and tapered tubing to top; comp. flowing 20 bbls. hourly, 26/64-in. choke, 2,000 lbs. on csg. and 800 lbs. on tubing.

Shell Petroleum Corp.'s No. 1 Fontenot, Sec. 7-9s-6w, 450 ft. due E No. 2 Heyd ..... Sand showing oil 6,895-6,907 ft.; cmtd. 7-in. csg.

EDGERLY—CALCASIEU PARISH

C. M. Crotty Oil Co.'s No. 7 Lillard (W.O.) ..... T.D. 2,530 ft.; pulling screen to deepen.

Emerson & Moore's No. 1-B Hunter, Sec. 21-9s-11w, 265 ft. SE of No. 10 ..... Sandy shale showing oil 4,050 ft; cmtd. 6⅝-in. csg. 4,000 ft.

LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 3 Martha Moss, 300 ft. W, 150 ft. S, NE cor. NW SE, Sec. 8-10s-9w..... Drlg. gumbo 1,200 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 751 fee (D.D.), Sec. 29-9s-10w.. Drlg. sand and shale 4,405 ft.

Union Sulphur Co.'s No. 769 fee, 295 ft. S, 918 ft. W of C of Sec. 29-9s-10w ..... Drlg. shale 5,240 ft.

Union Sulphur Co.'s No. 770 fee, 292 ft. S, 1,243 ft. W of center, Sec. 29-9s-10w ..... Location.

Union Sulphur Co.'s No. 771 fee, 431 ft. S, 340 ft. W of center, Sec. 29-9s-10w ..... Drlg. gumbo 2,605 ft.

Union Sulphur Co.'s No. 772 fee, 145 ft. S, 882 ft. W of center, Sec. 29-9s-10w ..... Location.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 13 Gray, 464 ft. E and 460 ft. S of C of Sec. 20-10s-12w ..... Drlg. gumbo 2,080 ft.

Vinton Pet. Co.'s No. 5 Matilda Gray (D.D.), 456 ft. W, 362 ft. N, SE cor. SW NE, Sec. 33-10s-12w..... Rig up to deepen 3,525 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 8 Dorion, 1,280 ft. S and 792 ft. E of NW cor. Sec. 24-12s-10w ..... Set 1 jt. 4½-in. screen 2,872 ft; comp. flowing 685 bbls. net oil, 40% wtr., ¾-in. choke; flowed six hrs.

Calcasieu Oil Co.'s No. 17 Watkins (D.D.), 2,088 ft. E, 162 ft. S, NW cor., Sec. 24-12s-10w ..... Rig up to deepen; 2,712 ft; standing.

Calcasieu Oil Co.'s No. 33 Watkins, 1,466 ft. E and 3,841 ft. N of SW cor. Lot 9, Secs. 37, 38 and 39, in Sec. 24-12s-10w ..... Set 2 jts. 4½-in. screen 2,862 ft; comp. flowing 935 bbls. net oil, 50% wtr., two ¾-in. chokes.

Calcasieu Oil Co.'s No. 34 Watkins, 435 ft. E, 430 ft. S, NW cor., Sec. 24-12s-10w..... Rig.

Calcasieu Oil Co.'s No. 2 Unsurveyed Island, 3,825 ft. N, 1,080 ft. E, SW cor., Sec. 39-12s-10w..... Rig.

R. E. Siess' No. 2 Vincent (D.D.), 2,395 ft. S, 1,355 ft. W, NE cor., Sec. 30-12s-10w ..... Drlg. anhydrite 2,930 ft.

J. G. Sutton's No. 6 Irwin, 1,820 ft. N and 1,845 ft. W of SE cor. of Sec. 13-12s-10w ..... Sand showing oil 3,040-58 ft; set 1 jt. 4½-in. screen; comp. flowing 760 bbls. P.L. oil, 420 lbs. pressure, ½-in. choke.

Sultex Oil Co.'s No. 1 Dorion, 181 ft. W, 12 ft. N of junction of W line of Sec. 46-12s-10w and S bank of Kelso Bayou in Sec. 36..... Derrick.

J. G. Sutton's No. 1-B Irwin, 3,321 ft. N, in line with SW cor. Sec. 39-12s-10w, in Sec. 25..... Spudded.

J. G. Sutton's No. 2-B Irwin, 2,821 ft. N, in line with SW cor. Sec. 39-12s-10w, in Sec. 25..... Rig.

The Texas Co.'s No. 9 State, 2,229 ft. N, 918 ft. E from SE cor. Sec. 13-12s-10w, in 12s-9w ..... Dredging canal.

The Texas Co.'s No. 10 State, 2,375 ft. N, 564 ft. E, SE cor. Sec. 13-12s-10w, in Twp. 12s-9w..... Location.

Union Sulphur Co.'s No. 1 Gulf land (Pure Oil Co. lease), 1,420 ft. N, 400 ft. W of SE cor. Sec. 11-12s-10w ..... Drlg. hard lime and shale 6,680 ft.

Yount Lee Oil Co.'s No. 28 State, 850 ft. E, 600 ft. S of NW cor. Sec. 24-12s-10w ..... Lime rock 2,742-52 ft; comp. through D.S. without screen; flowing 2,050 bbls. P.L. oil, 180 lbs. pressure, ½ and ¾-in. chokes.

Yount Lee Oil Co.'s No. 50 State, 600 ft. S, 700 ft. E of NW cor. of Sec. 24-12s-10w ..... Location.

Yount Lee Oil Co.'s No. 51 State, 545 ft. S, 560 ft. E of NW cor. of Sec. 24-12s-10w ..... Location.

Yount Lee Oil Co.'s No. 52 State, 495 ft. S, 420 ft. E of NW cor. of Sec. 24-12s-10w ..... Location.

Yount Lee Oil Co.'s No. 53 State, 445 ft. S, 275 ft. E of NW cor. of Sec. 24-12s-10w ..... Location.

Yount Lee Oil Co.'s No. 54 State, 978 ft. S and 435 ft. W of NE cor. of Sec. 23-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 55 State, 995 ft. S and 585 ft. W of NE cor. of Sec. 23-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 56 State, 1,000 ft. S and 725 ft. W of NE cor. of Sec. 23-12s-10w ..... Location.

STARKS—CALCASIEU PARISH

Gulf Refining Co.'s No. 30 Lutcher-Moore, Sec. 19-9s-12w, 300 ft. S of No. 16 and 300 ft. W of No. 20 .... Rig.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 11 Yount Lee, Sec. 12-13s-8w, 800 ft. S 66 deg. 42 min. from No. 9 ..... Location.

LEESVILLE—LA FOURCHE PARISH

Pop Oil Co.'s No. 1 Esponge Vizer (D.D.), Sec. 26-21s-22e. Abd. 4,098 ft.

PORT BARRE—ST. LANDRY PARISH

W. A. Aggers' No. 1 Cochran, 250 ft. S and 250 ft. E of NW cor. of Fractional Sec. 21-6s-5e ..... Standing 3,461 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

C. O. Farrington et al's No. 1 Jackson, Brookshire, S. F. Austin Sur. No. 10, 750 ft. NW of Empire Gas & Fuel Co.'s No. 1 Jackson and 250 ft. S of NW line... Drlg. shale 3,237 ft.
Grant & Baker's No. 1 Chesley, W. C. White Sur., 150 ft. from NW line and 150 ft. from SW line of 26-acre tract (northeast of Raccoon Bend Field) ..... Cmtd. 10-in. csg. 196 ft.; standing.
Mulvey & Conklin's No. 1 Trenchman, James Cummins Hacienda Sur., 1,244 ft. from S line and 274 ft. from W line of 32.25-acre tract ..... Clay 790 ft.
O'Hara Oil & Gas Co.'s No. 1 Neilius, J. C. Cummings Hacienda Sur., 650 ft. N of No. 1 Schroeder in 18-acre tract, north edge Mill Creek ..... Derrick.
Pomacal & Boletka's No. 1 Schebajsa, 329 ft. N, 78 deg. E of N cor. B. Dottery Sur., near center of SW line of S. F. Austin 4 League on west fork of Mill Creek.. Shut down 1,740 ft.
Taylor & Mitchell's No. 1 Schlecte, 1,850 ft. from SE line and 3,100 ft. from NE line of John Fitzgibbons Sur. ..... Drlg. sandy shale 3,460 ft.

BRAZORIA COUNTY

John Deering's No. 1 C. W. Chapman, 294 ft. from S line and 104 ft. from E line of Lot 2, Andrew Robinson Sur. ..... Preparing to resume drlg. 1,514 ft.
J. R. Ingram's No. 2 Levitt, John Peske Sur., 75 ft. NW of No. 1 ..... S.D. 1,735 ft.

BURLESON COUNTY

E. M. Gracey et al's No. 1 Bracey, J. Lastly Sur., 880 ft. from E cor. of P. Taylor 110 acres, SE along NE line of J. G. Houston 160 acres, thence 180 ft. at right angles in 3-acre tract ..... Rigging up.
Marek & Son's No. 3 A. Marek, N. McFaddin Sur., 1,068 ft. N and 325 ft. W of SE cor. of tract ..... Standing 2,210 ft.
M. O. & T. Corp.'s No. 1 Rigers ..... Drlg. shale and lime 2,295 ft.
Sampson Oil & Gas Co.'s No. 1 Duckworth & Gilley, 100 ft. from S line and 100 ft. from W line of Blk. 8, P. Singleton Sur. ..... Drlg. 100 ft.
J. E. Stubblefield et al's No. 1 Mitchell, A. T. Woolridge Sur., 81 ft. SW and 4,340 ft. SE of S cor. of Joseph Henson Sur. ..... Gumbo 600 ft; cmtd. 8¼-in. csg. 600 ft.

COLORADO COUNTY

Coyle-Concord Oil Co.'s No. 1 Nelson, I.&G.N. Sur., Sec. 43 ..... Cmtd. 10-in. csg. 680 ft; standing.

FORT BEND COUNTY

O'Hara et al's No. 1 Brown, Pilant Lake, Wm. Barrett and Abner Harris Sur., 600 ft. out of SW cor. of Brown 600-acre tract ..... Drlg. shale 3,761 ft.
Naylor & DeCosta's No. 1 Naylor, 6,350 ft. N, 55 deg. E from SW cor. 653-acre tract in Christman Sur. ..... Cmtd. 12½-in. csg. 1,221 ft.; S.D.

GRIMES COUNTY

Barnett et al's No. 1 Dodd, Timothy Jones Sur., 280 ft. N. Cobb & Rasmussen's No. 1 Dodd ..... Rock 1,792 ft; S.D.
Rianjo Oil Co.'s No. 3 Cuthrell, Patrick B. O'Connor Sur., 150 ft. S, 10 deg. E of No. 2 ..... Shut down 1,150 ft.

HARDIN COUNTY

Votaw Oil Co.'s No. 1 Southwestern Lbr. Co., 150 varas W of C of E line of Mary K. Sherman Sur. ..... Derrick.

HARRIS COUNTY

T. V. Buckholve & Sons' No. 1 Miller, Arthur McCormick Sur. ..... D.S. stuck 547 ft.
Flanigan et al's No. 1 Woodburn, Genoa, August Whitlock Sur., 200 ft. out of NW cor. of tract ..... Cmtd. 12-in. csg.
Shubert & Alexander's No. 1 Herman Hale, 1,058 varas E of NW cor. R. A. Hanks Sur., thence 790 varas S and thence 70 varas W 74 deg. ..... Drlg. shale 4,998 ft.

JACKSON COUNTY

Chicago Gulf Corp.'s No. 4 Druschell (W.O.) ..... No report.
Chicago Gulf Corp.'s No. 10 Druschell, Hayes Sur., 1,300 ft. NW of No. 3 ..... No report.

JASPER COUNTY

Hext Drlg. Co.'s No. 1 Flourney, B. F. Jones Sur., 900 ft. NW of Helmerich & Payne's No. 1 Flourney ..... T.D. 4,005 ft.; shut down.
Rio Neches Oil Co.'s No. 1 Boykin, 300 ft. NW of No. 1.. Sand 1,261-73 ft.; set 12 ft. of 4½-in. screen; comp. pumping 10 bbls. net oil, 25% wtr., 21.9 gravity.

JEFFERSON COUNTY

John I. Pipkin and Elam's No. 1 Broussard, McGaffey Sur., 800 ft. from S line in center E and W of 205-acre tract ..... S.D. 2,675 ft.
Jack Shultz' No. 1 M. O. Todd, 300 varas S and 58 varas E of NW cor. of Wm. Carr Sur. ..... Drlg. shale and sand 4,551 ft.

LIBERTY COUNTY

Bain-Rheubotham's No. 1 J. M. Neal, Edward Tanner Sur., 1,800 ft. E, 1,300 ft. N of most westerly NW cor. of Margaret Evans Sur. ..... Moving in rig.
Devore Oil Co.'s No. 1 Finley, 10,500 ft. from E line and 2,000 ft. from S line of A. B. Hardin Sur. .... Drlg. wtr. sand 3,665 ft.

MATAGORDA COUNTY

Dr. Griffith et al's No. 3 Baer, Big Hill, 5,000 ft. N, 2,000 ft. E from SW cor. of Seth Ingram Sur. ..... Drlg. gumbo 1,760 ft.
United North & South Oil Co.'s No. 1 Stoddard, J. C. Keller Sur., 150 ft. W and 545 ft. N of SE cor. Blk. 53, Buckeye Townsite ..... Preparing to set screen 7,838 ft.

MONTGOMERY COUNTY

Alpha Oil Co.'s No. 1 Conroe, A. McCowan Sur. ..... Tentative location.
Gohlson Bros. and Rycade Oil Corp.'s No. 1 Drought. 3,340 ft. along N line of Kronkrite Sur., from NE cor., thence 250 ft. S at right angles ..... Rigging up.
Heep Oil Corp.'s No. 1 Roberts, Wm. H. Harrison Sur., 450 ft. out of SE cor. of tract ..... Drlg. 200 ft.
Heep Oil Corp.'s No. 1 J. R. Freeman, John Davis Sur., 450 ft. from S line in center of 36.46-ac. tract ..... Drlg. gumbo 2,512 ft.
Pevehouse Oil Co.'s No. 1 Sealey, Jas. Pevehouse Sur., 1,575 ft. N of N line of Horton & Woodson's 1,562-acre tract and 2,226 ft. E of W line of H.&W. 1,870-acre tract ..... Shut down 3,984 ft.
Smith & McDaniel's No. 1 Sealey, J. C. Pitts Sur., just NE of center of S 1,500 ac. of sur. ..... Tentative location.
Strake Oil Corp.'s No. 2 South Texas Development Co., Theo. Slade Sur., 2,220 ft. S 10 deg. E of No. 1 ..... Coring sand and shale 4,295 ft; D.S. test 4,235-88 ft; showed gas.
Wilson Oil Co.'s No. 2 Leiberman (Kelley-Baker), 7,175 ft. from W line and 75 ft. from S line of D. James Sur. ..... Coring 4,940 ft.

NEWTON COUNTY

R. T. Briscoe et al's No. 1-A Joe Inman, 1,950 ft. E and 500 ft. N of SW cor. J. M. Scott Sur. ..... Shut down 1,795 ft.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract ..... Recovered stuck D.S.; reaming back to bottom 4,655 ft.
Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1 ..... Shut down 3,275 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman ..... Shut down 3,162 ft.
T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271 ..... Shut down 1,517 ft.

REFUGIO COUNTY

Humble Oil & Ref. Co.'s No. 1 O'Connor (D.D.), 6,012 ft. S from NE cor. along SE line of Lon T. Rios Sur., thence 7,375 ft. W at right angles in John Keating Sur. ..... Drlg. shale and lime 4,322 ft.
Humble Oil & Ref. Co.'s No. 2 O'Connor, John Keating Sur., 12,625 ft. N of S line at right angles and 8,158 ft. W of E line at right angles ..... Drlg. shale 3,912 ft.

SAN JACINTO COUNTY

Seven Wells Oil Co.'s No. 1 Foster Lumber Co., 3,000 varas from the E line and 2,000 varas from the S line of H. Alsbury Sur. ..... Spudded.

TRINITY COUNTY

John Deering's No. 1 J. B. Gibson ..... S.D. 2,226 ft.
Joseph M. Weaver's No. 1 Thompson, 150 ft. out of NE cor. of I.&G.N. Sur., No. 47 ..... Drlg. wtr. sand 2,473 ft.

VICTORIA COUNTY

Bunte et al's No. 2 Keeran, Martin DeLeon Sur., 200 ft. E of No. 1 ..... Drlg. sandy shale 4,712 ft.
Houston Oil Co.'s No. 1-A McFaddin, 200 ft. from NE line, 240 ft. from SE line of I.R.R. Sur. No. 20 ..... Drlg. sticky shale 3,569 ft.
T. B. Slick Estate's No. 2 McFaddin, J. Varian Sur., 3,500 ft. NW of No. 1 and 1,100 ft. NE at right angles to SW line of lease ..... D.S. test 4,070-96 ft; 500 lbs. dry gas in 5 minutes.
The Texas Company's No. 4 McFaddin, 86 deg. E, 1,728½ ft. from NE cor. of Andrew J. Gray Sur. in John M. Rine Sur. ..... Pumping mud to kill gas pressure 2,840 ft.

WALKER COUNTY

Hart Oil Co.'s No. 1 Thompson Lbr. Co., Jose Ortega Sur., 1,265 ft. S, 1,876 ft. W of SW cor. of J. B. Gibson's 71-acre tract ..... Shut down for repairs 2,090 ft.
Geo. F. Kerr's No. 1 Smithers Bros., S. Manning Sur..... Drlg. sand 1,517 ft.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 150-acre tract ..... No report.

SOUTH LOUISIANA

ASCENSION PARISH

McElroy Pet. Co.'s No. 2 Lacey, 150 ft. S, 150 ft. W of NE cor. of Sec. 29-10s-4e ..... Drlg. shale 4,570 ft.

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w ..... Shut down 875 ft.
Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... Shut down 3,650 ft.

CAMERON PARISH

Brownie-Babbette Oil Co.'s No. 1 R. A. Moore, 562 ft. W, 50 ft. S of NE cor. E half SE of Sec. 18-12s-12w.. Drlg. 5,000 ft.

EVANGELINE PARISH

Emile LeDeau's No. 1 Vidrine, 260 ft. W and 350 ft. S of NE cor. of Sec. 47-3s-2e ..... Shut down 1,420 ft.

IBERIA PARISH

Warrick Oil Co.'s No. 1 Bernard, 912 ft. N and 150 ft. E of SW cor. Sec. 54-12s-7e ..... Rig.

IBERVILLE PARISH

Standard Oil Co.'s No. 2 Myrtle Grove-Wilbert, Bayou Choctaw, 2,040 ft. N and 600 ft. W of C of Sec. 52-9s-11e ..... No report.
Standard Oil Co.'s No. 2 Gay, Bayou Choctaw, 4,500 ft. N and 600 ft. E of SW cor. SE of Sec. 52-9s-11e..... No report.
Standard Oil Co.'s No. 7 Schwing, Bayou Blue, 1,359 ft. N and 1,856 ft. E of C of Sec. 74-9s-10w ..... Abd. 5,491 ft. in gumbo.

PLAQUEMINES PARISH

Lake Washington-Freeport Sulphur Co.'s No. 1 Cockrell-Moran, Sec. 14-20s-26e, 3,442 ft. E and 46 ft. N of station ..... Coring 1,155 ft.

POINTE COUPEE PARISH

Grand Bay Oil & Gas Co.'s No. 1 Moniotte, 10,140 ft. S and 13,450 ft. E of NW cor. Twp. 5s-11 in Sec. 34.... Shut down 310 ft.

TERREBONNE PARISH

La. Gas & Fuel Co.'s No. 2 Minor, 3,480 ft. S and 1,980 ft. E of NW cor., Sec. 3-18s-16e ..... T.D. 6,002 ft; plugged to 3,882 ft.
Freeport Sulphur Co.'s No. 2 Wurzlow, Bay St. Elaine, 980 ft. S and 850 ft. W of NE cor. of Sec. 17-22s-18e. Sulphur test.
The Texas Company's No. 5 State, Dog Lake, 2,270 ft. S and 450 ft. E of NW cor. of Sec. 5-22s-16e ..... Drlg. sand and lime 3,600 ft.
The Texas Company's No. 2 La.L.&E., Lake Barre ..... Oil sand 3,837-70 ft.
The Texas Company's No. 9 State-Lake Barre (D.D.).. Set 50 ft. of 5 3/16-in. screen 3,848 ft; comp. flowing 2,350 bbls. P.L. oil, 498 lbs. pressure, 9/16-in. choke.
The Texas Company's No. 10 State, Lake Barre ..... Location.
The Texas Co.'s No. 14 State Lake Barre, 400 ft. S, 850 ft. W, NW cor. Sec. 30-21s-20e, in Sec. 37-21s-19e ..... Derrick.

VERMILLION PARISH

Pure Oil Co.'s No. 1 Mulvey Irrigation (Gueydan), 253 ft. S, 390 ft. E of No. 2 Alliance, in Sec. 34-11s-1w.. Location.

WEST FELICIANA PARISH

Putnam Synd.'s No. 3 Como Plantation, Sec. 51-1s-14w... Shut down 2,449 ft.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 68)

HARVEY COUNTY

D. R. Louck's No. 1 Regier, SW SE NW, Sec. 9-22-3w... Fishing 1,830 ft.
J. Liggett et al's No. 1 Vessel, NE SW, Sec. 3-23-3w.... Location.
Liggett et al's No. 1 Davis, SW SE NE, Sec. 7-24-1..... S.D. 2,500 ft.

KINGMAN COUNTY

Panhandle Drlg. Co.'s No. 1 Wetheral, C SE NW SW, Sec. 20-28-10w ..... 12-in. csg. 1,610 ft.; S.D.

McPHERSON COUNTY

Simmons-Canary's No. 1 Krehbiel, SE NW Sec. 33-18-1w. Location.
Detrich et al's No. 1 Sinclair, SE SW, Sec. 25-19-1w..... Drlg. 2,054 ft.

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State Land, NW SE, Sec. 22, 34-43w ..... T.D. 3,640 ft.; temp. abd.

MORRIS COUNTY

Urschel et al's No. 1 Bersuch, NW SE NW, Sec. 10-17-7.. S.D. 915 ft.
Kostle-Moseley & Hatfield's No. 1 Furney, NE SE, Sec. 16-16-8 ..... Spud; S.D.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w ..... Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW, Sec. 21-14-15..... S.O. 2,190-2,200 ft.; S.D.

PHILLIPS COUNTY

Hall et al's No. 1 Donaldson, C NE NE, Sec. 25-5-18w... Drlg. 1,355 ft.

PRATT COUNTY

Ninnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE, Sec. 28-27-11w ..... Rig.

RAWLINS COUNTY

J. G. Durham et al's No. 1 Weaver, SE cor., Sec. 2-2-35w.. S.D. 3,925 ft.

RENO COUNTY

Martin et al's No. 1 Yadu, C NW NW, Sec. 16-24-5w.... Spudding.
Jarvis & Wright's No. 1 Rainbow, NW SE, Sec. 32-22-7w.. Drlg. 3,465 ft.

RICE COUNTY

Slick et al's No. 1 Arth, SE NE Sec. 27-18-10w.....Location.
J. Liggett et al's No. 1 Thodel, C NW NW, Sec. 11-21-7w.S.D. 50 ft.

RUSSELL COUNTY

J. Brennan's No. 1 Waly, CNL E½ NW, Sec. 29-13-11w..Rig.

RUSH COUNTY

Skelton et al's No. 1 Brock-Hartman, SW SE NE, Sec. 4-18-16w .....S.D. 50 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W½ NE NW, Sec. 20-13-4w .....Top chat 3,028 ft.; cmtg. cave the second time.

SEDGWICK COUNTY

Tulsa Oil Co.'s No. 1 Levert, C SE SW, Sec. 8-28-2w....Rigging up.

SHERIDAN COUNTY

Flo et al's No. 1 Shoemaker, SE SW, Sec. 27-7-26w.....Fishing 4,505 ft.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE, Sec. 10-33-39w...S.D. 5,521 ft.

SUMNER COUNTY

Trees Oil Co.'s No. 1 Tompkins, SW, Sec. 26-33-1.....Location.
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW, Sec. 6-34-2 .....T.D. 3,120 ft.; U.R. 6-in. csg.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 73)

F. G. Stearns' No. 1 Mrs. B. Myrick, 610 ft. W, 150 ft. S of NE cor. of Lot 2, Blk. 2, Falfurrias Farm and Garden tracts 2 miles N of Falfurrias .....Spudded in.

CALDWELL COUNTY

George Sullivan and Shell Petroleum Corp.'s No. 1 Plinsoil, 2,800 ft. to SW line, 300 ft. to NW line of tract and survey in M. Dennis Sur. .....Bldg. derrick.
Kistler, Stivers & Hendrick's No. 1 D. Carter, 400 ft. from NW line of Sur., 300 ft. NE of Creek in L. Allen Sur. .....T.D. 1,485 ft.; standing in chalk.
Meyer's No. 1 G. C. and W. Walker, Solomon Seal Sur. ..T.D. 2,545 ft.; abnd.
M. O. Rayor's No. 1 Kruez Bros., 450 ft. N, 150 ft. W of SW cor. of J. P. McCarley Sur. in Samuel Shupe Sur. .....T.D. 510 ft.; drlg.
Taylor Oil Co.'s No. 1 McBride, 12 miles NE Luling .....T.D. 1,400 ft.; drlg.

COLORADO COUNTY

Coyle-Concord Oil Co.'s No. 1 Stewart Nelson in I.&G.N. Sur. No. 43 .....T.D. 670 ft.; set surface csg.

DEWITT COUNTY

Pat Armstrong's No. 1 E. T. Clark, 2,000 ft. S of Simms-Republic's No. 1 Clark in Jose Santos Sur.....Moving in.
J. F. Richardson's No. 1 Virginia Taylor, 330 ft. from SE line of tract, 330 ft. NE of Minnehuilla Creek....Location.

DUVAL COUNTY

John F. Camp's No. 1 Weil, 900 ft. NW and 150 ft. NE of cen. of Sur. No. 570 .....T.D. 2,438 ft.; drlg. in
Frank Gravis et al's No. 2 Schallert, 425 ft. to E line, 150 ft. to S line of Blk. 10, Cain & Smith Subd. "A", Sur. No. 255 .....T.D. 1,610 ft.; standing.
French Oil Corp.'s No. 1 Flores in Survey 731, 1,000 ft. N, 25 degrees W of Sun Oil Co.'s No. 1 Flores in Survey 730 .....T.D. 1,896 ft.; drlg.
Jimmy Hicks' No. 1 Peters, SW cor. of most southerly part of Sur. 322 .....Location.
Hynes and Nessly's No. 1 Duval Ranch Co., 200 ft. from S and E lines of Blk. 26, Sur. No. 196 .....T.D. 2,316 ft.; showing gas; reaming to test.
O. W. Killam's No. 1 Peters, 150 ft. from E line, 450 ft. from N line of SE of Sur. No. 1 .....T.D. 2,725 ft.; standing.
Smith & Capps' No. 2 Duval County Ranch Co., 2,040 ft. from NW line, 225 ft. from SW line of Sur. 574..T.D. 2,295 ft.; set csg.
Suttle et al's No. 1 Bennett, 150 ft. from N and E lines of Sur. No. 44 .....T.D. 2,025 ft.; drlg.
R. A. Thompson's No. 1 Parr, 2,640 ft. to W line, 12,160 ft. to S line of San Andres grant .....T.D. 5,000 ft.; abnd.
Trinity Drillers, Inc.'s No. 1 Hagist, 3,892 ft. from W line, 4,400 ft. from S line of Sur. 122 .....Rigging up.

GUADALUPE COUNTY

J. E. Clark's No. 1 R. Drummer, 600 ft. from SE line, 150 ft. from SW line of tract in Francisco Caravajal Sur. No. 47 .....Location.
Luling Oil & Gas Co.'s No. 1 J. D. Brown, 160 ft. from N line, 450 ft. from E line of tract in C. Wall Sur....T.D. 2,500 ft.; drlg.
Sal Mar Oil Corp.'s No. 1 F. A. Pfullman, 150 ft. from W line, 1,050 ft. from N line of tract in Lewis Bollinger Sur. .....T.D. 1,985 ft.; drlg.
Taylor Oil Co.'s No. 1 Pearson, S of Kingsbury.....Spudded in.

GOLIAD COUNTY

Hoffman & Gooch's No. 1 Fromme, 600 ft. from N and 1,200 ft. from W line of Peter B. Dexter Sur. .....T.D. 2,470 ft.; standing.
Humble Oil & Ref. Co.'s No. 1 Fromme, 450 ft. from S line, 150 ft. from W line of lease on Geo. Kersey Sur..T.D. 500 ft.; set surface csg.
Plymouth Oil Co.'s No. 2 Parks, 400 ft. S of No. 1 Parks in Solomon Parks Sur. .....T.D. 3,905 ft.; drlg.
Neal et al's No. 1 J. M. Pettus, 10,700 ft. to S line, 2,500 ft. to E line of Pedro Trevino Sur. .....T.D. 4,565 ft.; standing.

GONZALES COUNTY

Crowder Oil Co.'s No. 1 Preston, 1,000 ft. from W line, 2,000 ft. from N line of W. W. Pace Sur. .....T.D. 200 ft.; standing.
Edmiston & Kirby Petroleum Co.'s No. 1 J. W. Ward, Jr., 200 ft. from N and W lines of tract in Dan McKay Sur. .....T.D. 150 ft.; drlg.
Johnson & Mattock's No. 1 J. James, 12 miles NE of Gonzales city, 900 varas from E line, 300 ft. from S line of tract in M. A. Williams Sur. .....T.D. 545 ft.; standing.
Nassamer, Gordon & Waldrop's No. 1 B. Botts, 2,500 ft. from E line, 650 ft. from S line in Sec. 6, Blk. 56, Gonzales Sur. .....T.D. 950 ft.; standing.

HIDALGO COUNTY

Barrett-Kanellos' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) .....T.D. 4,167 ft.; drlg.
San Roman Oil Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. .....T.D. 2,500 ft.; S.D.
Dayle L. Smith's No. 3 Daskam, SW part of county.....T.D. 1,510 ft.; drlg.

JIM HOGG COUNTY

Clark & Cowden's No. 1 E. Vela, Share 1 El Peyote grant. Rigging up.
D. C. DeWitt's No. 1 Gomez, 1,170 ft. from N line, 150 ft. from W line of Sur. No. 12, SW part of county ..T.D. 1,280 ft.; drlg.
Duval Oil Co.'s No. 1 W. W. Jones, 1,020 ft. from S and W lines of 160-ac. tract in Holden Subd. of Share 5-A in San Diego Hinajosa grant .....Location.
T. P. Morgan's No. 1 fee, 2,223 ft. to N line, 1,640 ft. to E line of Share 19, Palo Blanco grant .....T.D. 4,207 ft.; standing.

JIM WELLS COUNTY

F. A. Lain's No. 1 Vernon Porter, 800 ft. from S line, 400 ft. from W line of 200-ac. tract in Sur. 25 .....Set surface csg.
S. J. Sloane's No. 1 W. Wade, 150 ft. SW of cen. of NE line of Lot 6, Blk. C of Wade ranch, C. Blanca Sur...Spudded in.
Vacuum Oil Co.'s No. 1 Seeligson, 4,500 ft. to W line, 75,000 ft. to S line of Los Jaboncillos Sur. .....T.D. 5,900 ft.; drlg.

KARNES COUNTY

A. E. Edmiston's No. 1 O. L. Cochran, 150 ft. from S line, 500 ft. from E line of farm in D. B. McConnell Sur. .....T.D. 1,820 ft.; standing.
Nichols Oil Co.'s No. 1 Newberry .....T.D. 3,040 ft.; drlg.
Pickett et al's No. 1 D. E. Lyons in Victor Blanco Sur.....Spudded in.

KENDALL COUNTY

Fred S. Dibble's No. 1 Ellenbrach, Sur. 77, N part of county .....T.D. 50 ft; S.D.
Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale .....T.D. 2,708 ft; standing.

KERR COUNTY

Geo. Ball's No. 1 F. A. Karger, 3 miles N of Kerville..Rig on ground.
Evans & Gant's No. 1 E. Young, A. E. Burg Sur. 28....T.D. 1,312 ft.; standing.
Evans & Gant's No. 3 Love, 600 ft. E of No. 1 Love in J. Martinez Sur. No. 1,594 .....Moving in rig.
Verde O. & G. Co.'s No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923, Hamilton Sur., 4 miles from Center Point; T.D. 200 ft; carried to this depth and abandoned as Herber Oil Co.'s No. 1 J. D. Witt .....T.D. 110 ft.; standing.

KLEBERG COUNTY

H. Carter et al's No. 1 R. H. Simmons, in Sec. 7, King Sur. No. 3 .....T.D. 3,205 ft.; standing.

LIVE OAK COUNTY

Catlett & O'Neill's No. 1 H. D. Miller, 2,400 ft. from SW line, 6,125 ft. from NW line of Miller ranch in SE part of county .....Laying line from gas well.
J. A. Harper's No. 1 fee, 2,130 ft. to N line, 510 ft. to E line of farm, J. Pointevant Sur. 37 .....Spudded in and standing.
Henderson Coquat's No. 1 Hewitt, 250 ft. from N and E lines of SW of Sec. 5, Thomas Adams Sur. .....T.D. 1,785 ft.; S.D.

LEE COUNTY

Washington-Lee Oil Co.'s No. 1 Hicket, 1,100 ft. from N line, 200 ft. from E line of tract in J. D. Varreiman Sur. .....T.D. 1,560 ft.; S.D.

MEDINA COUNTY

Robertson Drilling Co.'s No. 1 Little, 2,350 ft. from N line, 1,500 ft. from E line of E. B. Rutledge Sur., southern part of county .....Spudded in.

MILAM COUNTY

Birdwell et al's No. 1 E. and J. S. Williams, 150 ft. from N and E lines of 46-ac. tr. in Samuel P. Carson Sur., 5 miles SW of Rockdale .....T.D. 3,600 ft.; set csg.
H. W. Elliott's No. 1 Marek, 767 ft. from N line, 500 ft. from W line of 160-ac. tr. in B. Wickson Sur. .....T.D. 3,000 ft.; S.D.

NUECES COUNTY

C. E. McCarthy's No. 1, W of Corpus Christi .....Making location.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175 .....T.D. 2,530 ft.; standing.

SAN PATRICIO COUNTY

John F. Camp's No. 1 Jackson, SW cor. SW, Sec. 30, 3 miles from Edroy .....T.D. 5,467 ft.; drlg.

STARR COUNTY

Coastal O. & G. Co.'s No. 1 Kelsey-Bass, 448 ft. to N line, 150 ft. to W line of Tract 52, Sur. 2, Porcion 86..T.D. 430 ft.; drlg.
Davenport et al's No. 1 Wells, 30 miles W of Mission ..T.D. 1,093 ft.; csg. stuck.
O. W. Killam's No. 1 Wood, south end Porcion 84, SE of Rio Grande City .....T.D. 1,500 ft.; drlg.
Frank LaBorde's No. 1 Juan Marroquin, 1,250 ft. from E line, 1,225 ft. from S line of Share 21 of W two-thirds of Porcion 75 .....T.D. 320 ft.; drlg.
Sinclair & Rutherford's No. 1 J. T. Canales, 150 ft. from S and W lines of Share 69 of W half of Porcion 79, Camargo .....Location.
Stryalls Oil Corp.'s No. 1 M. E. Salinas, 155 ft. from N and W lines of lease in Porcion 80, Share 38 ....T.D. 1,968 ft.; drlg.
Strayhorn Oil Co.'s No. 1 Caffarelli, Porcion 80 .....Location.
R. B. Suttle's No. 1 Guerra, 2,000 ft. to N line, 270 ft. to W line of Porcion 110 .....T.D. 810 ft.; no report.
Jack Tarver's No. 1 Guerra, NE of Rio Grande City ....T.D. 856 ft.; changing to rotary.
E. L. Williams' No. 1 L. G. Madrigal, 150 ft. from N and W lines of Share 5-A of Porcion 72 of Jurisdiction of Mier .....Spudded in.
Jess Williams' No. 1 Welch, 1,120 ft. to W line, 1,500 ft. to N line of tr. in Pedernal grant .....T.D. 840 ft.; drlg.

TRAVIS COUNTY

C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur. .....T.D. 1,210 ft.; S.D.
Fritz Fuchs' No. 1 Swedish, 2,350 ft. from NE line, 750 ft. from NW line of Thomas Smith Sur. .....T.D. 900 ft.; S.D.
Ray & Henze's No. 1 Hatech, in C of tr. in S. Hamilton Sur. .....T.D. 900 ft.; S.D.
Ray & Orth's No. 1 Lundgren, 550 ft. from N line, 150 ft. from W line of 133-ac. tr. in L. Kimbro Sur. ....Spudded in and S.D.

WEBB COUNTY

McGinley Corp.'s No. 1 A. C. Billings, 450 ft. from N line, 150 ft. from W line of SW NE Sur. No. 71 ....Location.
Power & Dettenhaim's No. 1 Cowan & Goss, 1,870 ft. from W line, 1,656 ft. from N line of Sur. 1,606 ....T.D. 405 ft.; abnd.
Phillips Rosenberg's No. 2 Laurel, 150 ft. from N and W lines of Blk. 8, Sur. 271 .....T.D. 1,654 ft.; tested dry.

WILLIAMSON COUNTY

McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tr. in B. Manlove Sur. .....Rigging up.
McNeill & Matthews' No. 1 Bachmayer, 300 ft. from E line, 150 ft. from S line of C. C. Browning Sur. ...Location.
G. B. Peterman's No. 1 Guentzel, 300 ft. from SE line, 867 ft. from SW line of tract in H. Cooks Sur. .....Location.
G. L. Rowsey's No. 1 Streit, 450 ft. from SW line, 150 ft. from NW line of tract in J. West Sur. .....Location.

ZAPATA COUNTY

Ballard & Mercer's No. 1 Flores, 500 ft. from NE line, 580 ft. from SE line of Blk. 27, Porcion 37 .....T.D. 2,497 ft.; set csg.
George Ball's No. 1 Gutierrez, in Charco Redondo grant, taken over from Moore et al to deepen .....T.D. 2,065 ft.; drlg.
Joe Cullinan's No. 1 E. Gutierrez, 1,992 ft. from NE line, 2,303 ft. from SE line of Charco de la India grant .....T.D. 40 ft.; set surface csg.
Hunt & Polk's No. 1 H. Ramirez, 7,075 ft. N of S cor. and 2,918 ft. from W line of Share A of Villa grant..T.D. 150 ft.; drlg.
O. W. Killam's No. 1 Barrocito Ranch in J. V. Borrego Sur. .....T.D. 2,096 ft.; drlg.
McGinley Corp.'s No. 1 G. G. Flores, 750 ft. SW of E cor. and 150 ft. from SE line of Sur. 242 but in Sur. No. 250 .....Rigging up.

ZAVALLA COUNTY

Carpenter & Jenkins et al's No. 1 John Wolf, Sec. 8, Abstract 1,199 .....T.D. 1,014 ft.; abnd.

SOUTHWEST TEXAS PROVEN AREAS

Week Ending April 29

SCHIMMEL POOL—BASTROP COUNTY

YOST FIELD—BASTROP COUNTY

Campbell & Tong's No. 8 Yost, 300 ft. SE of No. 7 Yost, A. Garcia Sur. .....Location.

COSDEN POOL—REE COUNTY

Henderson Coquat's No. 1 Leroy Roberts, 300 ft. from W line of lease, 300 ft. N of NE cor. of Gremmel tract .....T.D. 3,290 ft.; drlg.

NORMANN POOL—BEE COUNTY

Gulf Coast Oil Co.'s No. 1 Hicks, 300 ft. S of Nichols Oil Co.'s No. 1 Hicks .....T.D. 4,535 ft.; coring.

PETTUS POOL—BEE COUNTY

The Texas Company's No. 4 Gremmel, 450 ft. W of No. 3 Gremmel in (south) John Pace Sur. .....T.D. 3,350 ft.; drlg.
United Prod. Co.'s No. 42 Ray, near No. 31 Ray .....Rigging up.
United Prod. Co.'s No. 43 Ray, NE of field .....Rigging up.

COOKSEY POOL—BEXAR COUNTY

Chiquita Oil Co.'s No. 3 Pollock, 330 ft. from S line and N offset to Chiquitas No. 1 Hunter in J. W. Rialls Sur. .....T.D. 1,530 ft.; set csg.

L. W. Stieren's No. 1 Annia Terrell, 150 ft. from N and E lines of lease in J. Martinez Sur. ..... T.D. 1,470 ft.; coring.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 3 J. H. Gembler, 180 ft. from N and E lines of tr. in A. Manachaca Sur. 61.. T.D. 1,216 ft.; drlg.
E. M. Carl's No. 1 F. Gembler, 160 ft. from N line, 750 ft. from E line of tract in J. Montes Sur. .. .. Location.
F. H. Eckert & Son's No. 1 Louis Brehm, W offset to No. 3 John J. Brehm ..... Location.
F. H. Eckert & Son's No. 10 Sandemer, 400 ft. E of No. 9 ..... T.D. 720 ft.; comp. 8 bbls.
Gatlin Oil Co.'s No. 11 I. A. Beck, 700 ft. from SE line, 156 ft. from SW line of tr. in J. Montes Sur. .. T.D. 495 ft.; drlg.
Gatlin Oil Co.'s No. 11 I. A. Beck, 700 ft. from SE line, 156 ft. from SW line of tr, in J. Montes Sur. .. T.D. 495 ft.; drlg.
W. K. Oil & Gas Co.'s No. 4 Strunk, 300 ft. E of No. 3 Strunk ..... T.D. 700 ft.; set csg.

GAS RIDGE—BEXAR COUNTY

American Gas Co.'s No. 5 W. H. Kennon, 1,750 ft. from S line, 2,000 ft. from E line of 400-acre tract in Maria F. Rodriges Sur. ..... T.D. 2,020 ft.; cleaning out.

SALT FLATS POOL—CALDWELL COUNTY

John Storey's No. 1 Dickerson, 150 ft. to N of center of S line of tr., John R. Rains Sur. ..... Rigging up.

COLE POOL—DUVAL COUNTY

Cole Pet. Co.'s No. 75 Benavides, 365 ft. from NE line, 150 ft. from NW line, Blk. 8, Sec. 18, Mariana Arispe grant ..... T.D. 4,820 ft.; coring.
Co-operative Drilling Co.'s No. 5 John Dinn, 264 ft. from N line, 150 ft. from W line of Blk. 5, Sur. 454.. Rigging up.

GOVERNMENT WELLS—DUVAL COUNTY

Duval Oil Corp.'s No. 9 Bishop Cattle Co., 2,216 ft. to W line, 2,221 ft. to N line of Sur. No. 135 ..... T.D. 850 ft.; drlg.
Humble Oil & Refining Co.'s No. 4 White, 2,310 ft. from S line, 1,320 ft. from W line of Sur. 58 ..... Location.

SLICK POOL—GOLIAD COUNTY

T. B. Slick estate's No. 2 Allen, 1,660 ft. from NE line, 330 ft. from NW line of tr. in Obid Marshall Sur. . T.D. 4,211 ft.; comp. gas well, 1,100 lbs. pressure.

DARST CREEK POOL—GUADALUPE COUNTY

Humble Oil & Ref. Co.'s No. 5-C Sue Denman, 525 ft. from E line, 600 ft. N of No. 4-C, Wm. Arrington Sur. ..... Derrick.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim ..... T.D. 5,648 ft.; abnd.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Perkins and LeGasse, 330 ft. from N and E lines of 245-ac. tr., Sec. 26, Shepard Subd. ..... T.D. 4,250 ft.; drlg.
V. B. Hillegeist's No. 1 McGregor, 150 ft. from W line, 330 ft. from S line of Sec. 311 ..... Location.
Kepley et al's No. 1 Speer and Hocker, 200 ft. from E and S lines of 850-ac. tr., in Speer and Driscoll lands ..... T.D. 500 ft.; drlg.
Rutherford Drlg. Co.'s No. 1 Hunter, 150 ft. from S and W lines of 10-ac. tr. ..... T.D. 2,690 ft.; drlg.
Saxet Oil Co.'s No. 5 Well, 3,041 ft. to N line, 333 ft. to W line ..... T.D. 2,500 ft.; standing.

ARANSAS POOL—SAN PATRICIO COUNTY

Atlantic Oil Prod. Co., to deepen to 6,000 ft. the Welder Oil Corp.'s No. 3 Welder ..... T.D. 6,015 ft.; abnd.

WHITE POINT—SAN PATRICIO COUNTY

United Prod. Co.'s No. 3 Cage ..... T.D. 4,925 ft.; drlg.

LOS OLMOS POOL—STARR COUNTY

Allison & Roberts' No. 1 Kelsey Bass in Sec. 6, Subd. of Porcions 75, 76, 77 ..... Location.
Bennett O. & G. Co.'s No. 1 Seabury et al, Porcion 75.... Moving in.
Kirk Cornell's No. 1 Kelsey Bass, 150 ft. from N line, 1,306 ft. from W line of NW NW Section 8, Subd. of Porcions 75, 76, 77 ..... T.D. 500 ft.; abnd.
H. H. Davis' No. 6 Kelsey Bass, 20 ft. from E line, 600 ft. from N line of SW NW Section 6, Subd. of Porcions 75, 76, 77 ..... Spudded in.
Day & Co.'s No. 1 Kelsey Bass, 150 ft. from S line, 400 ft. from W line of W 20 acres of NE NW of Sec. 6, Subd. of Porcions 75, 76, 77 ..... Rigging up.
Felder, Mitchell & Barnsley's No. 1 Kelsey-Bass, in Sur. 8, Subd. of Porcions 75, 76 and 77 ..... T.D. 320 ft.; drlg.
Griffin et al's No. 1 Bass, 150 ft. from N and W lines of NW NW Sur. 11, Subd. Porcions 75, 76, 77 ..... T.D. 35 ft.; set surface csg.
R. A. Hoffman's No. 1 Goodrich, 150 ft. from N and W lines of Blk. 6, Tract 5, Porcion No. 81 ..... Location.
Hooks & Weaver's No. 6 Kelsey Bass, 150 ft. from N and E lines of NE SW Sec. 6, Subd. of Porcions 75, 76, 77 ..... T.D. 468 ft.; set csg.
Hunter & Eakles' No. 1 Kelsey Bass, 350 ft. from N and W lines of NE SE Sec. 8, of Porcions 75, 76, 77..... Dropped, duplicate another test.
M. A. Landrum's No. 2 Kelsey-Bass, 519 ft. from S line, 150 ft. from E line of Sur. 6, Porcions 75, 76 and 77 ..... Location.
M. A. Landrum's No. 1 A. K. Bass, Sec. 6, 150 ft. to S and E lines of lease ..... Location.
Los Olmos Oil & Gas Co.'s No. 12 Kelsey Bass, 646 ft. from W line, 150 ft. from N line of SE SW Sec. 8, Porcions 75, 76, 77 ..... T.D. 450 ft.; comp. 20 bbls.
Tom C. Patton's No. 1 Kelsey-Bass, 150 ft. to W line, 150 ft. to S line of 20-ac. tract in NW NE of Subd. 3 of Porcions 75, 76 and 77 ..... T.D. 700 ft.; drlg.
R. H. Pursley's No. 2 Seabury et al, 650 ft. from S line, 150 ft. from E line of Pursley 80-acre lease in Share 5 of Partition of Porcion 75 ..... T.D. 120 ft.; drlg.
Quien Sabe Oil Co.'s No. 1 Kelsey Bass, 300 ft. from N line, 750 ft. from W line of NE SW Section 8, Porciones 75, 76, 77 ..... Location.
Rio O. & G. Co.'s No. 3 Kelsey-Bass, No. 6 Subd., Porcions 75, 76 and 77 ..... T.D. 569 ft.; standing.
Sinclair & Rutherford's No. 1 Kelsey Bass, 150 ft. from S and W lines of SE NW Sec. 6, Subd. of Porcions 75, 76, 77 ..... Rigging up.
Tarver & Nance's No. 4 Kelsey Bass, 450 ft. from N line, 600 ft. from W line of lease in Sur. 7, Porcions 75, 76, 77 ..... T.D. 455 ft.; set csg.

RIO GRANDE CITY POOL—STARR COUNTY

Brady Drilling Co.'s No. 1 Rio Grande City, in center of city Plaza ..... Location.
R. H. Pursley's No. 1 Hinojosa, center of Blk. 96 of Rio Grande City ..... Location.

AVIATOR FIELD—WEBB COUNTY

Ross Amigos' No. 1 E. Garcia, 450 ft. from N and E lines of Blk. 46, Sur. 592, Los Ojuelos grant ..... T.D. 1,842 ft.; set csg.

WEST COLE POOL—WEBB COUNTY

French Oil Corp.'s No. 7 Benavides, 2,310 ft. from N line, 150 ft. from W line of Sur. 659 ..... T.D. 2,340 ft.; comp. 85 bbls.
French Oil Corp.'s No. 4-A Benavides, 2,640 ft. from N line, 150 ft. from W line of Sur. 659 ..... Derrick.
Magnolia Petroleum Co.'s No. 7 Benavides, 2,490 ft. from N line, 200 ft. from E line of Sur. No. 660..... T.D. 2,336 ft.; set csg.

ANDREWS POOL—ZAPATA COUNTY

The Major Co.'s No. 1 Benavides, 150 ft. from NW and SW lines of Sur. 12 ..... T.D. 1,504 ft.; tested oil and salt water.

ESCOBAS POOL—ZAPATA COUNTY

Allied Gas Co.'s No. 32 Gutierrez, 1,985 ft. from NE line, 275 ft. from SE line of Share 4 of Comitas grant. T.D. 1,365 ft.; drlg.
E. K. Bateman's No. 1 M. Garza Estate, 150 ft. to NE and SE lines of Douglas Subd. of Comitas grant ..... Set surface csg.
E. R. Black & Paul S. Williams' No. 1 Comitas grant, 150 ft. from NW and NE lines of Blk. 100 ..... Derrick.
F. M. Blair & Son's No. 1 Montemayor, 450 ft. to N, 150 ft. to E line of Blk. No. 1, Sur. 63 ..... T.D. 1,390 ft.; drlg.
O. W. Killam's No. 6 Medina, 330 ft. from NE line, 325 ft. from SE line of Share 34, Comitas grant ..... T.D. 1,460 ft.; set csg.
W. M. Lee's No. 1 I. G. Trevino, 150 ft. from S and W lines of Blk. 7, Sur. No. 66 ..... T.D. 1,453 ft.; abnd.
McGinley Corp.'s No. 2 G. T. Montemayor, 150 ft. from S and E lines of Blk. 2, Sur. 64 ..... T.D. 1,460 ft.; standing tested salt water.
McGinley Corp.'s No. 1 Jose Bustamente, 1,200 ft. to NE line, 150 ft. to NW line of 105.7-acre Henne, Winch & Fariss tract, Share 35, Comitas grant ..... T.D. 300 ft.; drlg.
McGinley Oil Corp., No. 1 G. T. Montemayor, 150 ft. from N and W lines of Blk. 6, Sur. 64 ..... Location.
The Texas Co.'s No. 8 Measles, 16,757 ft. from W line, 150 ft. from SE line of Cerrito Blanco grant ..... Rigging up.
Trevino Oil Corp.'s No. 15 I. G. Trevino, 262 ft. from E line, 326 ft. from S line of Blk. 15, Sur. 412 ..... T.D. 1,257 ft.; testing.

CHARCO-REDONDO POOL—ZAPATA COUNTY

Bob & Richey's No. 29 Martinez, 810 ft. from SW line, 360 ft. from SE line of Blk. 24, W. R. Duke Subd., Charco Redondo grant ..... Location.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 76)

W. M. Coates' No. 1 Gray, 330 ft. N and W, SE cor. SW, Sec. 3-7-13 ..... Location.
W. M. Coates' No. 2 Gray, 330 ft. S and W, NE cor. SE SW, Sec. 3-7-13 ..... Location.
Craig et al's No. 1 Travis, Sec. 13-7-11, 200 ft. S and E, NW cor. SE NW ..... Set 10-in. 100 ft.
B. A. Ferrell's No. 1 Haley, Sec. 6-7-12, 300 ft. S and E, NW cor. NW SW ..... Fishing for D.S. 1,220 ft.
M. L. Friend's No. 1 Stille, 330 ft. N and E, SW cor. SE SW, Sec. 35-8-13 ..... Location.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S. 200 ft. W, NE cor. NW NW, Sec. 10-8-13..... Coring shale 5,073 ft.
R. L. Gay, tr.'s No. 11 Bowman-Hicks, 330 ft. N and W, SE cor. NE NE, Sec. 14-7-14 ..... Location.
J. I. Hall's No. 1 Williams, SE NW, Sec. 3-7-10 ..... Setting 5-in. csg. 2,593 ft.
D. Holcomb's No. 1 Petty, 330 ft. S and W, NE cor. SW SW, Sec. 12-7-11 ..... Rigging up.
G. E. Jordan's No. 1 Dew, 330 ft. N, 340 ft. E, SW cor. SW SE, Sec. 34-8-11 ..... Location.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13...S.D.; W.O. 3,128 ft.
A. D. King, tr.'s No. 1 Germain, Sec. 7-7-10, 330 ft. E, 518 ft. N, SW cor. NE NE..... Drlg. 1,500 ft.
A. D. King, tr.'s No. 1 T. L. Andries, 200 ft. S, 300 ft. E, NW cor. SE SE, Sec. 15-7-11 ..... Location.
A. D. King, tr.'s No. 1 J. J. Andries, 140 ft. S, 240 ft. W, NE cor. SE SW, Sec. 15-7-11 ..... Derrick.
M. J. Kissick's No. 1 Buvins, 570 ft. S, 14 ft. W, NE cor., Sec. 20-7-11 ..... Set 10-in. 106 ft; drlg. 500 ft.
W. F. Lacey's No. 3 McNeely, Sec. 14-7-11, 300 ft. S and E, NW cor. NE NE ..... Derrick.
Jack Lanier's No. 1 Petty, Sec. 11-7-11, 330 ft. N and W, SE cor. NE SE ..... Set 6-in. 2,420 ft.
Geo. LeGrand's No. 1 McGough, Sec. 3-8-10..... Set 10-in. 100 ft.
Lowery & Greene's No. 1 Martinez, 330 ft. N and W, SE cor., Sec. 34-8-13 ..... Location.
Mays et al's No. 1 Delong, Sec. 5-7-10, 275 ft. N, 175 ft. W, SE cor. SE SW..... Derrick pattern.
Hill Myers' No. 1 Garcia, 200 ft. N and W, SE cor. SW NW, Sec. 4-7-13 ..... Rigging up.
E. F. Neely's No. 1 Cobb & Alford, Sec. 14-7-11, 200 ft. S, 100 ft. E, NW cor. NE SW..... W.O.S.R. 2,485 ft.
E. F. Neely's No. 1 Rains, 660 ft. N, 100 ft. W, SE cor., SW NW, Sec. 14-7-11 ..... Set 10-in. 100 ft.
C. E. Neff, tr.'s No. 1 Snell, Sec. 9-7-11, 350 ft. N, 660 ft. W, SE cor. Sec. ..... Set 6-in. 2,370 ft.
Palmer & Smitherman's No. 1 La. Long Leaf Lbr. Co., Sec. 12-7-11, 330 ft. S and E, NW cor. NE SE..... Location.
Palmer & Smitherman's No. 2 La. Long Leaf Lbr. Co., 330 ft. S and W, NE cor. SE, Sec. 12-7-11..... Location.
Palmer & Smitherman's No. 3 La. Long Leaf Lbr. Co., 330 ft. S and W, NE cor. NE SW, Sec. 12-7-11..... Set 10-in. 100 ft; drlg. 2,050 ft.
J. F. Palmer's No. 1 Davis, Sec. 17-7-10, 200 ft. S and E, NW cor. NE NW..... Derrick abd.
Pelican Nat. Gas Co.'s No. 8 Sabine Lbr. Co., 330 ft. S and W, NE cor. NE SW, Sec. 3-7-13 ..... Set 12½-in. 100 ft; drlg. 150 ft.
H. W. Perritt's No. 1 Brown Lbr. Co., Sec. 6-7-10, 330 ft. N and E, SW cor. SW SE ..... Tested dry 2,763 ft; W.O.
Roy Raines et al's No. 1 Beard, 720 ft. E, 700 ft. N, SW cor. SW SE, Sec. 8-8-10..... Derrick pattern.
F. G. Reed et al's No. 1-A McNeely, 200 ft. N and E, SW cor. NW NE, Sec. 14-7-11..... Set 10-in. 102 ft; drlg. 2,230 ft.
Ruston Drlg. Co.'s No. 1 Cutrer, 300 ft. S and E, NW cor. NW NE, Sec. 13-7-11..... Set 6-in. 2,430 ft.
Sabine Prod. Co.'s No. 1 Sabine Lbr. Co., 330 ft. S and W, NE cor. NW SE, Sec. 3-7-13 ..... Location.
Scully & Beach's No. 1 Lafitte, Sec. 13-7-11, 100 ft. S, 660 ft. E, NW cor. NW..... Comp. flowing 200 bbls. 2,550 ft.
H. R. Smith et al's No. 1 La. Long Leaf Lbr. Co., Sec. 12-7-11, 330 ft. S and W, NE cor. NW SW..... Location.
Southland Drlg. Co.'s No. 2 F. Martinez, Sec. 11-7-13, 330 ft. S and E, NW cor. NE NW..... Derrick pattern.
Southland Drlg. Co.'s No. 1 Gilbert Martinez, Sec. 2-7-13, 330 ft. N and W, Sec. cor. SW SW..... Derrick pattern.
Southland Drlg. Co.'s No. 1 Frost Lbr. Co., 330 ft. N and W, SE cor. NE NE, Sec. 13-9-11..... Drlg. 100 ft.
State Prod. Co., Inc.'s No. 1 Davis, Sec. 17-7-10, 150 ft. N and E, SW cor. SW NW..... Set 10-in. 102 ft.
State Prod. Co., Inc.'s No. 1-B Davis, 200 ft. N and E, SW cor., Sec. 17-7-10 ..... Derrick pattern.
A. F. Tarver's No. 3 Cutrer, Sec. 12-7-11, 1,120 ft. E, 300 ft. N, SW cor. NW..... W.O.S.R. 2,600 ft.
The Texas Co.'s No. 2-B Grauque, Sec. 10-7-13, 1,700 ft. W, 330 ft. S, NE cor. Sec. ..... Set 6-in. 2,060 ft.
Williams & Spiers' No. 1 Williams, Sec. 31-8-10, SE cor. SE SW..... Derrick.

TENSAS PARISH

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12..... S.D. 2,545 ft.

WEBSTER PARISH

J. K. Wadley's No. 1 Matthews, Sec. 11-23-9, 130 ft. N, 330 ft. E, SW cor. SW NE..... Set 6⅝-in. 2,795 ft.

ARKANSAS

ASHLEY COUNTY

D. S. Brooks, Inc.'s No. 1 Crossett Lbr. Co., 330 ft. N and E, SW cor. SW SE, Sec. 31-15s-6w..... Coring black shale 2,730 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, Rhea & Kitchen, Sec. 13-17-22 ..... S.D. 814 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-8 ..... S.D. 1,350 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12..... Rigged up and S.D.

CLEBURNE COUNTY
(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... S.D. 2,740 ft.

CRAWFORD COUNTY

Ozark Nat. Gas Co.'s No. 1 C. E. Jones, 660 ft. N, 372 ft. E, SW cor. SE SW, Sec. 32-9-31.....Location.

DALLAS COUNTY

J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor, SE, Sec. 11-9-15.....S.D. 2,575 ft.
Zepp O. & G. Co.'s No. 3 Hillman, Sec. 20-16-13, 180 ft. N, 450 ft. E, SW cor. NW NE.....Location.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 Ogles, Sec. 35-15-5, 330 ft. S and E, NW cor. NE NW.....S.D. 1,890 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16.....Reaming 1,306 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW, Sec. 5-8-7.....S.D. 2,800 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-12-19.....Location.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26.....S.D.; W.O. 3,570 ft.

MILLER COUNTY

C. E. Litchfield's No. 1 Hervey, 525 ft. S, 350 ft. W, NE cor. NE NW, Sec. 2-15-26.....T.A. 2,885 ft.
Fitzwater et al's No. 1 Beck, Sec. 33-15-26.....Drlg. lime 2,820 ft.
W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27.....S.D.; W.O. 2,275 ft.

OUACHITA COUNTY

Copenhaven et al's No. 2 Berg, C SE SE, Sec. 13-15-17..Set 6-in. 2,141 ft.
McLean et al's No. 1 L. D. Neely, Sec. 23-15-16, 200 ft. N and W, SE cor. NE SW.....S.D. 102 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14.....T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24.....S.D.; W.O. 1,020 ft.
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor., Sec. 13-9-23..... Skidding over; to drill new hole.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW, Sec. 3-4n-6w .....Partly rigged up and S.D.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26.....S.D.; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 .....S.D. 1,860 ft.

SEVIER COUNTY

Tristate Oil Co.'s No. 1 Grimble, Sec. 34-8-32, S½ SW....S.D. 950 ft.

ST. FRANCIS COUNTY

Field & Jones' No. 1 F. M. White, Sec. 1-4n-2e, SW cor. NW .....S.D. 700 ft.

UNION COUNTY

Drillers Oil & Dev. Co.'s No. 1 Pickering, 220 ft. N, 668 ft. E, SW cor. NW NE, Sec. 1-17-16.....T.A. 2,134 ft.
H. H. Helms' No. 1 C. H. Murphy, NE cor. NW NE, Sec. 31-16-14 .....S.D. 2,875 ft.
Pigeon Hill Oil Co.'s No. 1 Union Sawmill Co., 330 ft. S and W, NE cor. NW SW, Sec. 19-17-12.....Drlg. 240 ft.
Wilson & Chapman's No. 1 King, Sec. 3-18-13, 330 ft. N and E, SW cor. NE NE .....Derrick.
Wilson & Chapman's No. 1-A D. Norman, 330 ft. S and E, NW cor. N½ NE SE, Sec. 3-18-13.....Waiting orders 1,678 ft.

WASHINGTON COUNTY

(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30.....S.D. 1,795 ft.

YELL COUNTY

(Cable tools)

Tegmeier & Lockett's No. 1 Falcon, Sec. 36-7-21.....S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. .....S.D. 4,505 ft.
Lanford et al's No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. .....S.D. 1,792 ft. (corrected).
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. .....S.D. 3,000 ft.

CASS COUNTY

Davis & Pigg's No. 1 Roy Bryan, SW cor. Roy Bryan 88-ac. tr., Albert H. Lattimer Sur. .....Arranging to resume drlg. 2,860 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. .....S.D. 4,390 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. ....S.D. 2,280 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. .....S.D. 960 ft.

HARRISON COUNTY

Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. .....S.D. 4,195 ft.
Tom Medders et al's No. 1 Davidson, NW cor. R. W. Starr Sur. .....Waiting orders 3,728 ft.
J. G. Peterbaugh et al's No. 1 Colluns, 330 ft. from W line, 1,060 ft. from S line of 75-ac. tr., W. G. Pentecost Sur. .....Drlg. 2,571 ft.
Ryan Cons. Pet. Corp.'s No. 1 J. M. Fuhr, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. .....Derrick.
Triangle Drlg. Co.'s No. 1 Platt, 1,125 ft. W, 1,995 ft. N, SE cor. F. C. Barker Sur. .....Location.

MARION COUNTY

Baunoch Dev. Co.'s No. 1 Miller, 725 ft. N, 1,470 ft. E, SW cor. H. Fulgram Sur. (was Gist, Claunch & Dodson) .....T.A. 4,120 ft.
Benedum & Trees' No. 1 Tyler, 400 ft. from S line, center of E and W lines, Wm. Holloway Sur. .....Drlg. 3,650 ft.
Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. .....Arranging to resume drlg. 2,380 ft.

PANOLA COUNTY

Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur...Drlg. 450 ft.
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. .....S.D. 2,685 ft.
J. L. Nelson et al's No. 1 J. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in James Hanks Sur. .....S.D. 3,055 ft.

SHELBY COUNTY

E. L. Chapman's No. 2 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. D. S. Height Sur. .....Rigging up.
Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. ....Drlg. shale and lime 3,800 ft.
Fuller & O'Brien Bros.' No. 1 Frost-Johnson Lbr. Co., 200 ft. S, 150 ft. W, NE cor. 168-ac. tr., Aaron Castleberry Sur. .....Reaming 2,345 ft.
K. H. Francis' No. 1 John Mims, Mary Smith Sur. .....Fishing 3,282 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E, SW cor. J. A. Morris' 109-ac. tr., William English Sur. .....Dry and abd. 2,605 ft.
Henry Maulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 20-ac. tr., A. D. Fountain Sur. .....S.D. 3,246 ft.
McRoby et al's No. 1 Windham, Wm. Leach Sur., on Windham 296-ac. tr. .....Pulling 6⅝-in. csg. 3,393 ft.
Ridgeway et al's No. 1 Polley, Dominguez Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. .....S.D.; trying to kill wtr. flow 900 ft.
Sedberry et al's No. 1 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. Jane Stoddard Sur. .....Drlg. 1,250 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. .....S.D. 20 ft.
Western World's No. 1 Foster, Billingsby-Jeremiah Bowlin Sur. .....S.D. 2,568 ft.
Wray & Dunbar's No. 1 C. A. Hayden, 600 ft. N and W SE cor. 152-ac. tr. in D. T. F. Yordt Sur. .....S.D. 826 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, well, farm name, section and block— Remarks:
Calatex O. & G. Co.'s No. 1 Scott, Sec. 5-16-16, 1,320 ft. E, 300 ft. N, SW cor. .....Drlg. 2,340 ft.
Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15.....S.D. 2,275 ft.

OUACHITA PARISH

Carbon Con.'s No. 7 Guthrie, Sec. 50-20n-4e, 5,263 ft. N, 7,475 ft. W of cors. of Secs. 25, 26 and 49, in Sec. 50 .....Location.

SABINE PARISH—ZWOLLE

O. J. Baird's No. 2 Duggan, Sec. 14-7-11, 200 ft. S and E from cen. Sec. .....1,800 ft. oil in hole 2,500 ft.
W. M. Coates' No. 1 LaRoux, 330 ft. N and E, SW cor. SE, Sec. 36-8-13 .....Location.
W. M. Coates' No. 1 Nulton, 224 ft. E, 330 ft. S, NW cor. SW NW, Sec. 1-7-13 .....Location.
Crescent Drlg. Co.'s No. 4 Byrd, 200 ft. N and W, SE cor. NW NE, Sec. 12-7-11.....Set 10-in. 100 ft; drlg. 1,800 ft.
Dengail O. & G. Co.'s No. 1 E. Nulton, 224 ft. E, 330 ft. N, SW cor. NW NW, Sec. 1-7-13.....Set 10-in. 105 ft; drlg. 787 ft.
Dengail O. & G. Co.'s No. 1-F Nulton, 330 ft. S and E, NW cor. SW NW, Sec. 2-7-13.....Location.
Dengail O. & G. Co.'s No. 1-G Nulton, 350 ft. N, 330 ft. W, SE cor. NE NE, Sec. 3-7-13.....Set 10-in. 103 ft.
Depression Oil Co.'s No. 1 Peters, 355 ft. N, 340 ft. W, SE cor. SW SW, Sec. 11-7-11.....Set 10-in. 110 ft.
M. L. Friend's No. 1 Ezernack, 250 ft. N, 330 ft. W, SE cor. N½ NE NE, Sec. 2-7-13 .....Rigging up.
M. L. Friend's No. 1 Nulton, 300 ft. S and W, NE cor. SE NE, Sec. 2-7-13 .....Derrick.
J. E. Grandstaff's No. 1 Johnson, S½ SW SW, Sec. 2-7-11.Rigging up.
Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11.....Set 6-in. 2,331 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11.....Tested dry; W.O. 2,680 ft.
Loring Oil Co.'s No. 18 Bowman-Hicks, 1,280 ft. S, 275 ft. E, NW cor. SW NW, Sec. 15-7-12.....Drlg. 4,750 ft.
Ben Merritt, tr.'s No. 3 Byrd, 100 ft. E, SW cor. NW SW, Sec. 1-7-11 .....Comp. flowing 115 bbls. 2,440 ft.
Pelican Nat. Gas Co.'s No. 11 La. Long Leaf Lbr. Co., Sec. 10-7-11, 330 ft. N and W, SE cor. NE NW.....W.O.S.R. 2,592 ft.
Pelican Nat. Gas Co.'s No. 13 La. Long Leaf Lbr. Co., 330 ft. N and W, SE cor. NE SE, Sec. 9-7-11.....Drlg. 2,205 ft.
Sabine Prod. Co.'s No. 3 Pearce, Sec. 10-7-11, 330 ft. S and E, NW cor. SE NW.....Testing 2,699 ft.

UNION PARISH

Interstate Nat. Gas Co.'s No. 2 Steele, 1,980 ft. W, 660 ft. N, SE cor., Sec. 26-20-3e.....Rigging up.
Interstate Nat. Gas Co.'s No. 3 Steele, 660 ft. S and E, NW cor. NE, Sec. 26-20-3e.....Location.
Southern Carbon Co.'s No. 59 fee, 660 ft. N, SE SW cor. SE, Sec. 17-20-4e.....Set 8-in. 787 ft; drlg. 1,492 ft.

ARKANSAS

UNION COUNTY—EL DORADO

Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15.....T.A. 7,255 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 .....Cored S.W. sand 3,601-06 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13.....T.A. 3,586 ft.
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13.....Location.
Wilson & Chapman's No. 1-B Hadley, Sec. 3-18-13, 330 ft. S and W, NE cor. SE NW.....T.A. 3,545 ft.
Wilson & Chapman's No. 2 Emily King, Sec. 3-18-13, 150 ft. S, 150 ft. E, NW cor. NE NE.....Waiting orders 1,730 ft.

EAST TEXAS

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. .....Drlg. 3,313 ft.
Nat. Gas Prod. Co.'s No. 1 Hawkins, 125 ft. S and W, NE cor. 75-ac. tr., James Shandoin Sur. .....Comp. 3,000,000 ft. gas 2,945 ft.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. ....Location.

MISSISSIPPI

HINDS COUNTY

McGuire et al's No. 1 Spring Lake, Sec. 11-5n-1e, 250 ft. N, 450 ft. W, from center of Sec. .....Set 6-in. 2,435 ft.

RANKIN COUNTY

Meredith & Smith's No. 2 Strawder, Sec. 12-5n-1e, 2,582 ft. W, 300 ft. N, SE cor. NE.....Set 6⅝-in. 2,370 ft.
Meredith-Smith et al's No. 3 Strawder, 400 ft. S, 750 ft. W, NE cor., Sec. 12-5n-1e.....Derrick pattern.
Owen & Weaver's No. 1 Fitzhugh, 1,740 ft. E, 225 ft. N, SW cor., Sec. 1-5n-1e.....Drlg. 100 ft.

WILDCAT OPERATIONS IN MISSISSIPPI

CLARKE COUNTY

Company, well, farm name, section and block— Remarks:
F. X. Gowans et al's No. 1 Elfring, SE NE, Sec. 13-1n-14e..Rigging up.

HINDS COUNTY

Atkins et al's No. 1 Crane Lawrence, Sec. 23-6n-1e, 300 ft. E, 132 ft. N, SW cor. NE SE.....Rigged up.
Miss.-Minn. Oil Co.'s No. 1 Edwards Land Co., Sec. 23-6n-4w, 1,200 ft. N and E from center of Sec. .....Drlg. hard sand 2,800 ft.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9 .....T.A. 3,408 ft.

LAMAR COUNTY

Stauffer & Kourl's No. 1 Bond, SE NE, Sec. 18-2n-14w..Set 10-in. 1,050 ft; T.D. 1,090 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec. .....Rigging up.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE, Sec. 25-6n-11e.....S.D. 840 ft.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e..S.D. 1,735 ft.

RANKIN COUNTY

Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e.Derrick.
Orr et al's No. 1 Hanna, Sec. 14-5n-1e, 500 ft. E, 250 ft. S, NW cor. SW.....S.D. for casing 3,380 ft.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9.....S.D. 190 ft.

SHARKEY COUNTY

United Gas Public Service Co.'s No. 1 Lenhart, Sec. 14-14n-6w, 660 ft. N of CSL of Sec. .....Drlg. 3,685 ft.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-3 .....S.D. 2,607 ft.

Better Effect on Market Sentiment

Strengthening of Oil Issues Feature of Week on Stock Exchange. First Quarter Oil Company Reports Considered Encouraging

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Suite 2803, No. 19 Rector Street

NEW YORK, May 9.—The action of Standard Oil Co. (New Jersey) in continuing its extra dividend buoyed market sentiment, and put to a rest rumors recently circulated in financial quarters regarding a probable dividend cut by Jersey. The arrival of a group of Soviet oil representatives, reputedly for the purpose of discussing an international accord on production with leaders of the American and world industry, aroused widespread interest in financial circles and exerted a bullish effect on market sentiment, while first quarter reports of a number of oil companies, indicating that a turn in the industry's earnings position was in process of development, also strengthened sentiment with regard to the oils.

Prairie

Pending settlement by the courts or by agreement of the claims of minority stockholders in the Prairie Oil & Gas Co. and Prairie Pipe Line Co. in connection with the recent consolidation of the Prairie units with Sinclair, the New York Stock Exchange will permit the stocks of both Prairie companies to remain on the "big board" list. This action by the exchange reverses its previous ruling. The exchange has now ruled that capital stock transactions in Prairie Pipe and Prairie Oil & Gas may be settled by certificates respectively of these shares, or, alternately, certificates of the Consolidated Oil Corp.

In announcing its ruling, the exchange said that counsel for the Prairie companies contend that stockholders who did not agree to the terms of the merger have no right to the value in cash for their holdings and are entitled only to shares in Consolidated. On the other hand, counsel for the minority hold that their clients are entitled to the value in cash of such shares as they hold.

"In view of this difference of opinion and since the committee (the exchange's listing committee) is advised that it is impossible to determine promptly the rights of such dissenting stockholders," the announcement states, "the committee will allow shares of the Prairie Oil & Gas Co. and the Prairie Pipe Line Co. to remain listed on the exchange until further notice. However, the committee calls the attention of members to the fact that there is no assurance that the purchasers of such shares acquire any other right than that of turning in such shares for the number of shares of Consolidated Oil Corp. set forth in the consolidation agreement."

Standard of California

Standard Oil Co. of California has declared the regular quarterly dividend of 50 cents a share, payable June 15 to stock of record May 16. The company reports for the first quarter of 1932 net profit after estimated income tax of $2,930,241, compared with net of $4,368,609 in the first quarter last year.

S. O. Indiana

Standard of Indiana has declared regular quarterly dividend of 25 cents.

S. O. N. J.

Standard of New Jersey has declared usual extra dividend of 25 cents and regular quarterly dividend of 25 cents.

Skelly Oil

Skelly Oil Co. reports for the first quarter of 1932 net loss of $278,623 after taxes and charges, as compared with net loss of $776,345 in the March quarter last year.

Standard Oil Nebraska

Standard Oil Co. of Nebraska has declared a quarterly dividend of 25 cents a share on the $25 no-par common stock, payable June 20 to stock of record May 28. This compares with 50 cents quarterly paid previously.

Pure Oil

Stockholders of Pure Oil Co. will vote June 4 at the annual meeting at Columbus, Ohio, on a proposal to change the common stock of the corporation from $25 par value to stock of no-par, and to exchange the outstanding common stock on a share-for-share basis for the new stock. The plan involves reduction in the stated value of the stock from $25 to $10, the balance remaining from the transaction to be transferred to surplus.

Directors Re-elected

Retiring directors of Tide Water Oil Co. were re-elected at the annual meeting here this week.

Warner-Quinlan Co. directors were re-elected at the annual meeting here this week.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Oct. 28	16.80	Feb. 3	13.19
Nov. 4	18.86	Feb. 10	12.02
Nov. 11	18.76	Feb. 17	13.28
Nov. 18	17.60	Feb. 24	13.45
Nov. 25	16.68	Mar. 2	13.61
Dec. 2	16.09	Mar. 9	14.38
Dec. 9	15.38	Mar. 16	13.00
Dec. 16	12.60	Mar. 23	13.02
Dec. 23	12.06	Mar. 30	13.85
Dec. 30	12.31	Apr. 6	12.12
Jan. 6	12.69	Apr. 13	11.31
Jan. 13	13.63	Apr. 20	12.11
Jan. 20	13.14	Apr. 27	12.46
Jan. 27	12.79	May 4	11.73

Ohio Oil

Ohio Oil Co. has restored its no-par common stock to a dividend basis by declaration of a quarterly disbursement of 20 cents per share, payable June 15 to

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ended April 30)

1932 High	1932 Low	Week ended Apr. 30 Sales	Week ended Apr. 30 High	Week ended Apr. 30 Low	Close May 4	Stocks		Outstanding capital	Par value	Div. rate	Payable or last paid	1929 High	1929 Low	1930 High	1930 Low	1931 High	1931 Low
¾	¼	4,300	⅝	⅜	⅝	American Maracaibo	(sh)	700,000	N.P.	....	.....	8⅝	1⅛	4½	½	1¾	¼
2¾	1⅛	200	1⅛	1⅛	..	Arkansas Natural Gas	(sh)	4,084,235	N.P.	....	.....	26	3¾	16¾	4⅝	6½	1⅞
2⅝	1	2,500	1¼	1	1	Arkansas Natural Gas "A"	(sh)	3,522,521	N.P.	....	.....	24¾	6½	16⅝	4⅝	6¾	1⅞
5½	3⅞	No sales	..	..	..	Arkansas Natural Gas pfd.	(sh)	2,193,000	$10	15cQ	4- 1-32	9	4	8⅛	6¼	7	3⅞
9¾	8	No sales	..	..	..	British American Oil Corp.	(sh)	2,622,642	N.P.	20cQ	4- 1-32	62	7⅞	23	13⅜	16⅞	6¼
⅝	¼	500	½	½	½	Carib Syndicate		$131,250	25c	....	.....	4⅞	1	2¾	⅝	2⅜	¼
6⅞	3½	67,700	4½	3¾	3½	Cities Service	(sh)	24,290,359	N.P.	30cA§	5- 2-32	68⅛	20	44¼	13	20¾	5
53⅜	30½	1,700	38⅞	34½	30½	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	5- 2-32	98¾	84	93⅞	78¼	84¾	35⅝
⅛	1/16	2,000	1/16	1/16	..	Colombia Syndicate		3,250,000	N.P.	....	.....	..	..	21	3⅜	7⅛	1
1⅞	⅝	700	⅞	¾	..	Columbia Oil & Gasoline v.t.c.	(sh)	$2,000,000	$1	....	.....	2	½	¾	⅛	½	1/16
⅝	⅜	No sales	..	..	½	Colon Oil	(sh)	2,200,000	N.P.	....	.....	15	3⅞	8¼	1⅛	3⅛	¼
1	1	No sales	..	..	..	Consolidated Royalty Oil Co.		$5,527,880	$10	5cQ	4-25-32	11⅛	2½	5⅞	2	2¾	1
1	½	900	¾	½	½	Cosden Oil	(sh)	323,950	N.P.	....	.....	135	42	74¾	1¼	3¾	⅜
2⅜	1⅝	600	2	1⅞	..	Darby Petroleum	(sh)	609,696	N.P.	....	10-15-30	26	6½	21¾	4¼	5	1¾
2⅝	1½	100	1¾	1¾	..	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	11	2	11	2	6	1½
24½	15	500	16¼	15	..	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	44	20¾	60	30	40½	25
35⅞	25⅜	800	29¾	27⅝	29	Gulf Oil Corp.	(sh)	4,504,921	$25	....	10- 1-31	209	115	166⅞	58½	75½	25⅝
4½	2¾	No sales	..	..	2¾	Indian Terr. Oil "B"	(sh)	7,090,037	N.P.	....	.....	..	..	53½	12⅝	16⅞	5
¼	1/16	500	1/16	1/16	⅛	Intercontinental Petroleum		$5,682,000	$5	....	.....	2⅞	⅜	1¾	⅜	⅝	⅛
⅝	⅜	No sales	..	..	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3⅝	1¼	3	⅞	1⅞	¼
½	1/16	No sales	..	..	..	Leonard Oil & Development		$50,000,000	$25	....	.....	14⅞	2½	5	¾	2	½
⅞	½	7,700	¾	½	⅝	La. Land & Exp.	(sh)	3,000,000	N.P.	....	.....	6⅛	1	4¾	½	1½	¼
2¼	1½	No sales	..	..	..	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	38⅞	18	29	4⅞	6¾	1½
9¼	3⅜	1,600	4⅝	4⅜	4⅜	Lone Star Gas	(sh)	5,000,000	N.P.	15cQ	3-31-32	67⅞	28	55⅞	19⅝	25	5½
⅛	1/16	No sales	..	..	..	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1¼	½	½	⅛	½	¼
6⅛	3¾	No sales	..	..	..	Margay Oil Corp.		160,000	N.P.	25cQ	4-11-32	38½	14	16	3	5	1⅞
5¼	3	1,200	3⅜	3	2⅝	Memphis Natural Gas	(sh)	920,000	N.P.	15cQ	4-15-32	24	8⅛	22¼	7½	12⅛	4½
2	2	1,700	2	2	2	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	6⅜	2¼	7½	1¾	4⅞	1½
⅛	⅛	100	⅛	⅛	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	1½	½	¾	⅜	½	⅛
3	2⅛	100	2¼	2¼	2⅜	Mountain Producers		$1,682,182	$10	20cQ	4- 1-32	22⅞	7	12½	3¾	5⅞	2
13½	10	1,100	11¼	10⅜	10	National Fuel Gas	(sh)	3,810,183	N.P.	25cQ	4-15-32	43⅞	23	41⅜	19⅜	26½	9¾
¾	⅜	800	¾	⅝	..	New Bradford Oil		$7,224,186	$5	....	4-15-31	5	2½	3½	1⅛	1½	½
⅞	½	900	½	½	..	New Mexico and Arizona		$1,000,000	$1	....	.....	9⅜	2¼	7¼	1½	3	¾
1	⅝	No sales	..	..	..	North Central Texas	(sh)	400,000	N.P.	....	9- 2-30	18½	6⅛	11¼	2⅛	3¼	⅝
⅜	¼	100	¼	¼	..	North European Oil	(sh)	1,372,391	N.P.	....	.....	..	..	6¼	⅝	2⅛	¼
6¼	3⅞	200	3⅞	3⅞	..	Pacific Western Oil	(sh)	1,000,000	N.P.	....	.....	26⅝	12⅛	19½	5½	15	2⅛
⅛	1/16	No sales	..	..	..	Pandem	(sh)	489,875	N.P.	....	.....	3½	½	2½	¼	½	1/16
½	¼	No sales	..	..	..	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	10½	1⅞	4⅜	⅞	2	⅜
7¾	6	100	6¼	6¼	..	Plymouth Oil	(sh)	1,050,000	$5	25cQ	4- 1-32	37	22	27½	16¼	19	6
½	¼	1,900	¼	¼	..	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	8½	1⅛	5⅜	1	3⅛	¼
1	⅜	No sales	..	..	..	Richfield Oil pfd. x.w.	(sh)	399,950	$25	....	.....	31½	22	23½	6½	11	¼
1¼	¾	300	1½	1⅛	..	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	11	2	8⅝	2	3	⅜
½	⅛	200	½	½	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	57⅞	17⅜	2½	½	13⅜	⅛
4⅛	3⅛	300	3¼	3⅛	3¼	Salt Creek Producers	(sh)	1,496,859	$10	25c	5- 2-32	25⅞	9	15¼	5¼	7¾	2¾
½	¼	200	⅜	⅜	¼	Sunray Oil	(sh)	1,163,185	$5	....	4-15-31	12	5⅝	10	2	5¼	¼
6⅝	4¾	300	5¼	5	..	Texon Oil & Land	(sh)	936,036	N.P.	25c	3-31-32	23	7⅛	19½	8	12⅞	2½
½	¼	900	¼	¼	¼	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	6½	1¾	4½	⅜	1⅞	¼
2	1⅛	No sales	..	..	..	Woodley Petroleum		$500,000	$1	....	3-31-29	9½	2	5	½	3½	1⅛
½	⅛	600	1/16	1/16	..	Y Oil & Gas		100,000	N.P.	....	.....	2⅞	½	2½	⅜	2¼	¼

*Ex-dividend. †Unit of trading less than 100 shares. ‡Payable monthly and monthly stock dividend of one-half per cent. §Paid in lieu of regular cash dividend of 2 per cent.

stock of record May 17. The last previous payment was 25 cents per share, in March of last year. Ohio Oil reports for the March quarter net earnings of $1,656,106 after taxes and charges, compared with net of $196,392 in the corresponding quarter of 1931.

Seaboard Oil

Seaboard Oil Co. of Delaware (formerly Mexican Seaboard) reports for the March quarter estimated profit of $175,000 after all charges, as compared with profit of $53,155 for the first quarter last year.

Tide Water Associated

Tide Water Associated Oil Co. will show a profit for the first quarter of 1932, according to Axtell J. Byles, president, who expressed an optimistic viewpoint regarding the oil industry outlook at the company's annual meeting. In the first quarter last year Tide Water Associated showed net loss of $101,575 after all charges.

Replying to a stockholder, Mr. Byles said he believed a tariff on oil imports might have a temporary benefit on most companies, but he did not believe a tariff for an indefinite period would be advisable.

George N. Armsby, Frank Callahan and J. H. Markham, Jr., were elected directors, succeeding F. I. Fallon, H. G. Freeman and Hunter S. Marston, who were not candidates for re-election. Directors re-elected were Henry W. De Forest, William F. Humphrey, Robert McKelvy, Jackson E. Reynolds, Edward L. Shea, Paul Shoup and Henry S. Sturgis.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ended April 30)

1932 High	1932 Low	Week ended Apr. 30 Sales	Week ended Apr. 30 High	Week ended Apr. 30 Low	Close May 4	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1929 High	1929 Low	1930 High	1930 Low	1931 High	1931 Low
6¼	6	No sales	..	..	..	Borne Scrymser		$1,000,000	$25	....	10-15-30	46½	25	25	11¼	16	6
35	25	100	26½	26½	..	Buckeye Pipe Line		$10,000,000	$50	$1Q	6-15-32	74½	55	69	39⅞	56	30
90	75	100	77	77	75	Chesebrough Mfg.		$3,000,000	$25	$1Q‡	3-31-32	210	130	184⅞	104¼	129½	75
2½	1¾	8,000	2½	2	2⅛	Creole Petroleum	(sh)	5,977,872	N.P.	....	.....	11¾	5⅜	7⅞	3	3⅞	1⅝
35	23	No sales	..	..	26	Eureka Pipe Line		$5,000,000	$100	$1Q	5- 2-32	70½	40	54¾	26	36	19
49	37⅞	1,200	39	37⅞	37½	Humble Oil & Refining		$74,103,300	$25	50cQ	4- 1-32	128	74⅛	119	57¼	72	44¼
9½	6⅝	12,200	7¾	7¼	7¾	Imperial Oil of Canada	(sh)	25,421,768	N.P.	12½cQ	3- 1-32	41	22	30	15	18¼	7⅝
7½	3	No sales	..	..	..	Indiana Pipe Line (new)		$3,000,000	$10	25cQ	2-15-32	41⅞	26	41	14½	21⅛	5½
10½	8⅜	18,300	10⅛	9⅛	9¾	International Petroleum (new)	(sh)	14,247,088	N.P.	25cQ	3-15-32	30⅜	15	24	11⅜	15½	7⅜
10½	6⅞	100	8	8	..	National Transit		$6,362,500	$12.50	25cQ	4-15-32	25⅛	10⅛	22⅜	11½	17½	5
4	3	No sales	..	..	..	New York Transit		$500,000	$5	10cQ	4-15-32	17½	10	21⅜	10¼	14½	5⅞
4¾	3¼	100	3½	3½	..	Northern Pipe Line		$1,200,000	$10	$1.50SA	1- 2-32	63	41	54	26¼	35½	20
6¾	4	No sales	..	..	5	Penn Mex Fuel		$10,000,000	$25	50c	10-31-31	44½	20	32	12	15½	5½
14½	9⅝	900	13	12⅜	..	South Penn Oil		$30,000,000	$25	25cQ	3-31-32	60¼	35⅛	45⅞	16⅛	23⅞	9¼
10	8	200	9	8⅞	..	Southern Pipe Line		$1,000,000	$10	35cQ	6- 1-32	22½	13	20⅞	8⅜	17	7
37	32	No sales	..	..	..	Southwest Pennsylvania Pipe Line		$1,750,000	$50	$1Q	4- 1-32	70	60	64	32	42½	25
17¼	13⅛	25,000	16¾	15½	15⅞	Standard Oil of Indiana		$422,795,250	$25	25cQ	6-15-32	63	45	59⅞	30	38½	13½
15⅞	10	5,100	12⅜	10⅞	10¾	Standard Oil of Kentucky		$25,654,516	$10	40cQ	3-31-32	46⅞	29	40½	18⅝	23⅝	12⅛
19	14½	No sales	..	..	15	Standard Oil of Nebraska		$4,649,225	$25	50cQ	3-21-32	50¼	40	48⅞	34⅝	36½	16
28⅛	15½	300	24½	23½	23	Standard Oil of Ohio		$14,000,000	$25	62½cQ	4- 1-32	129	60	108½	43¼	62½	23
2	1¾	400	2	2	..	Swan-Finch Co.	(sh)	34,480	$25	....	1-15-29	18	10	10	4	4½	1

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ended April 30)

1932 High	1932 Low	Week ended Apr. 30 Sales	Week ended Apr. 30 High	Week ended Apr. 30 Low	Close May 4	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1929 High	1929 Low	1930 High	1930 Low	1931 High	1931 Low
15½	12	2,200	15½	14	14½	Amerada Corp.	(sh)	922,075	P.N.	50cQ	1-30-32	42⅝	17½	31½	16½	23	11¼
4	¼	1,800	⅝	¼	..	American Republics Corp.	(sh)	209,180	N.P.	....	12-31-30	64¾	12½	37	5⅛	12⅜	1¼
9¾	6¾	10	7	7	..	Associated Oil		$57,260,300	$25	25cQ	4-15-32	47¼	34½	51	30	31	8¾
12⅞	8⅝	5,100	10⅝	9½	9⅝	Atlantic Refining		$67,416,050	$25	25cQ	3-15-32	77⅞	30	51⅜	16⅝	23⅝	8⅝
5⅞	4	8,300	4½	4	4⅛	Barnsdall Corp. A		$11,293,895	$5	....	5-11-31	49⅛	20	34	8⅝	14½	4
16⅛	6½	27,400	8⅞	7¾	8	Columbia Gas & El.	(sh)	11,684,220	N.P.	25cQ	5-15-32	140	52	87	30⅝	45⅝	11⅝
11	9	1,500	11	10	..	Colonial Beacon Oil	(sh)	1,444,970	N.P.	....	12-22-22	32⅞	12½	20⅜	8¾	10½	7½
7⅛	4⅛	100	4¼	4¼	4½	Consolidated Oil Corp.	(sh)	14,190,000	N.P.	....	.....	..	..	..	..	..	..
7	4⅞	12,900	5⅜	4⅞	4¾	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	47⅞	18	30½	7¾	12	5
35¾	16	2,700	18¾	16	16	General American Tank Car	(sh)	811,647	N.P.	$1Q	1- 1-32	123¾	75	111⅞	53⅛	73⅛	28
15½	7⅜	1,000	9	8⅛	7⅜	General Asphalt	(sh)	413,333	N.P.	25cQ	3-15-32	94¾	42¼	71½	22⅜	47	9⅝
24⅜	10⅛	8,900	14⅞	10⅛	10¾	Houston Oil		$24,968,600	$100	....	10-17-30	109	26	116⅞	29¼	68½	15⅜
1⅝	1	100	1	1	..	Indian Refining		$12,564,070	$10	....	10- 1-30	53	13⅛	17	2	4⅝	1⅛
1⅝	1	400	1	1	..	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	18	7	12	3½	4½	1
1	½	No sales	..	..	..	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	18½	5⅛	10⅜	1⅜	3¾	½
6½	3¾	4,800	5	4⅜	..	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	39⅞	22⅛	32	11	16¾	5
9¼	5	100	5	5	..	National Supply of Delaware	(sh)	390,879	$50	....	5-15-31	144	98½	124¾	60	70¼	5
7⅞	5	7,300	6¼	5⅝	6¼	Ohio Oil	(sh)	6,648,052	N.P.	....	3-14-31	79⅞	64¾	32	16	19½	5⅛
28	17⅛	200	28	28	..	Pan American P. & T.		$50,084,700	$50	40c	4-20-32	69	40½	46½	42	35⅛	20
29	16	300	29	27	22½	Pan American P. & T. "B"		$121,110,650	$50	40c	4-20-32	69¼	40½	67¼	30	36½	18
1¼	½	No sales	..	..	..	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	15¼	3	12¾	1¾	4¼	⅝
6½	3⅞	5,800	4⅜	4	3¾	Phillips Petroleum	(sh)	2,593,075	N.P.	....	1- 2-31	47	24¼	44⅝	11½	16⅝	4
½	¼	1,300	¼	¼	¼	Pierce Oil Corp.		$29,622,831	$25	....	.....	3⅜	1	2½	½	1½	¼
1⅛	⅝	300	¾	¾	⅝	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	5⅞	½	7⅛	1⅛	3⅜	½
7⅛	4	600	5	4¾	..	Prairie Oil & Gas		$60,848,000	$25	....	3-31-31	65⅜	40½	54	11¼	20⅜	4⅛
9¾	5¾	2,700	7	6⅛	6⅝	Prairie Pipe Line		$101,250,000	$25	....	6-30-31	65	45	60	16⅝	26½	5⅞
1⅝	½	400	¾	½	⅝	Producers & Refiners		$37,438,950	$50	....	9-15-23	25⅞	4	11⅞	1	6	1
9¾	3⅛	No sales	..	..	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	46¾	25½	40	11½	16	3
5⅛	3¼	3,500	4½	4	3¾	Pure Oil		$75,959,250	$25	....	9- 1-30	30¾	20	27¼	7⅝	11⅞	3¼
¾	½	800	½	½	½	Richfield Oil (new)		$52,410,875	N.P.	....	.....	49⅝	20	9¾	4⅛	6⅝	⅜
2½	2	700	2¼	2⅛	2⅛	Rio Grande Oil	(sh)	1,236,270	N.P.	....	7-25-30	42½	15	25¾	5	10¼	1¼
23	12⅛	57,400	15½	13⅝	16½	Royal Dutch N. Y.	(sh)	611,303	....	$0.9385	8- 4-31	64	43⅛	56½	36⅞	42⅝	13
9⅞	6⅝	10,800	8¾	7⅝	8	Seaboard Oil of Delaware	(sh)	1,244,383	N.P.	....	10- 1-24	59⅜	8¼	37	9¾	20¾	5½
15¾	8	440	10⅛	9½	..	Shell Transport & Trading Co.		£23,985,000	£1	$0.726	7-23-31	51½	40⅝	48⅜	26	34	5
4⅛	2½	7,000	2¾	2½	2¾	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	31⅜	19	25½	5¼	10¼	2½
31	19	2,300	25⅛	22¾	23½	Shell Union Oil pfd.	(sh)	400,000	$100	....	7- 1-31	108¼	93	106¼	55	78	15
6	3¼	700	3⅝	3½	3¾	Simms Petroleum	(sh)	600,000	$20	....	9-15-30	40⅛	15	37	5⅝	11	3½
4½	2½	900	3⅜	3⅛	3⅛	Skelly Oil		$27,441,250	$25	....	12-15-30	40½	28	12	10⅛	12⅞	2
19	12	No sales	..	..	18	Skelly Oil pfd.	(sh)	119,800	$100	....	5- 1-31	..	..	99¾	42	62	10
10⅜	8	41,700	8⅞	8	8	Socony-Vacuum	(sh)	31,923,072	$25	20c	6-15-32	..	..	106⅜	98	106	87⅛
91½	84½	300	86¾	84¾	84¾	Standard Oil Export pfd.	(sh)	764,885	$100	$2.50SA.	12-31-31	..	..	..	..	21	8⅝
27½	16¾	193,000	19⅜	17⅛	18¼	Standard Oil of California	(sh)	12,594,098	N.P.	50cQ	6-15-32	81⅞	51½	75	42½	51⅝	23⅛
12⅜	7	900	7½	7½	7⅜	Standard Oil of Kansas		$8,000,000	$25	....	3-16-31	33¾	18	49	14⅜	19	7¾
31½	19⅞	177,200	24	19⅞	23¾	Standard Oil of New Jersey		$634,999,200	$25	25cQ‡	6-15-32	83	49	84⅞	32½	52½	26
32	24¾	100	26	26	25¾	Sun Oil	(sh)	1,416,869	N.P.	25cQ	6-15-32	68⅜	55	70	39	45¼	26¾
⅝	¼	700	⅝	¼	⅜	Superior Oil Corp.	(sh)	766,979	N.P.	....	12-20-30	24	5¼	9⅜	¾	1⅜	¼
13¾	10	19,400	11¾	10⅝	10½	The Texas Corporation		$246,204,900	$25	25cQ	7- 1-32	71⅞	50	60½	28¼	36¼	9⅞
2⅜	1½	1,000	2⅜	1¾	2	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	23⅞	9½	14½	4	6½	1⅞
9	7	No sales	..	..	7	Tide Water Oil	(sh)	2,191,759	N.P.	25cQ	3-31-32	40	14	31	13	18	9⅞
41	30	200	32¼	32	30	Tide Water Oil pfd.	(sh)	19,947,000	N.P.	$1.25Q	2-15-32	97½	85⅛	94⅞	71	83	30
3½	2	3,900	2⅜	2⅛	2¼	Tide Water Associated	(sh)	5,560,424	N.P.	....	2-16-31	23½	10	17⅜	5⅞	9	2⅛
28⅛	20	1,500	24¾	23¾	24⅞	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	1- 2-32	90⅞	74⅛	89¾	55	68	20½
13¾	10	5,700	11	10	10	Union Oil of California		$104,342,375	$25	35cQ	2-10-32	57	42⅛	50	10⅛	26⅝	11
19¼	12½	1,200	12½	12½	12	Union Tank Car	(sh)	1,254,048	$100	35cQ	6- 1-32	163¾	121⅞	38½	23	25½	16
1½	⅝	400	⅞	⅝	⅝	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	42⅞	15	27	4¼	7⅜	⅞
5¾	3	700	3⅝	3	3	Wilcox Oil & Gas	(sh)	428,907	$5	....	5-10-28	29¾	12⅞	21	6½	9⅜	2¾

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus extra dividend of 25 cents.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

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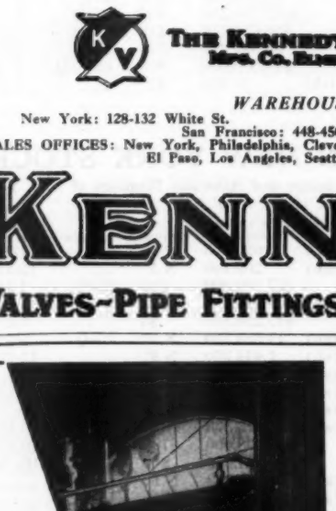

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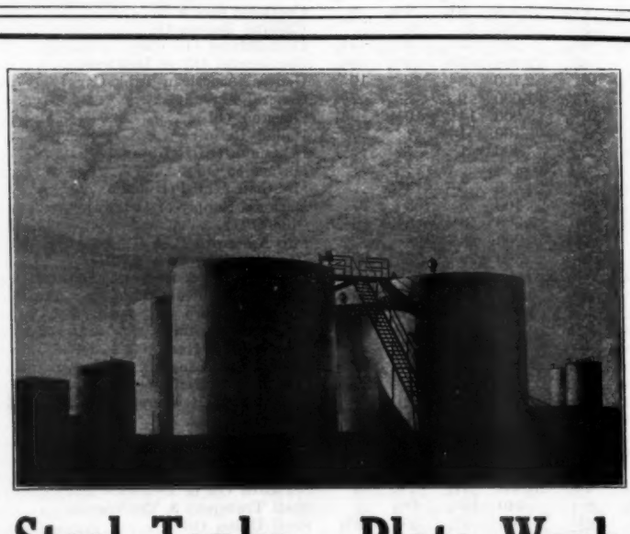

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Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

AGE OF FIELD AND GRAVITY

Will the oil from a certain field always be of the same gravity, regardless of the length of time the field produces and regardless of the methods of production used? Suppose, for example, that a newly opened field is producing 36 gravity oil. Will that field continue to produce oil of that same gravity?—N. A. M.

Records show that as formation pressures decline the gravity of the oil from the reservoir sands decreases. The decline in gravity may be retarded and the initial gravity maintained by the application of back pressure on wells. H. C. Miller, senior petroleum engineer in the U. S. Bureau of Mines, says on this point that in California, where as a rule trap pressure is held on new wells, oil produced under high pressure is 1° or 2° A.P.I. gravity higher than when little or no trap pressure is held on the wells. Changes in gravity are usually less pronounced and of small magnitude after wells enter the pumping stage. However, when vacuum is applied to pumping wells the gravity of the oil produced decreases usually in direct proportion to the amount of vacuum held on the wells. The gravity of crude oils is affected also by the gas lift. When dry gas is circulated in a gas-lift well oil gravities are decreased slightly. On the other hand, a small increase in gravity is noted when wet gas is circulated.

Data collected in the Cook Pool, Shackleford County, Texas, show that there is a relation between gas-oil ratios and the gravity of oil produced and that high gas-oil ratios are conducive to the production of oil of subnormal gravity. For example, certain leases were producing oil of 35.5° A.P.I. gravity, with a gas-oil ratio of 14,000 cubic feet per barrel, whereas the normal gravity of the oil produced in this field in wells where gas-oil ratios varied between 285 and 627 cubic feet per barrel is 39° A.P.I. It is apparent, therefore, since oil generally is sold on the gravity basis with the higher gravity oil commanding the better price, that every effort should be made to maintain the gravity of the oil at as high a point as possible. This can be accomplished by strict control of gas-oil ratios, production methods that bring the oil to the surface with the minimum quantity of gas, and maintaining trap pressure on new wells.

BOTTOM-HOLE PRESSURES

Is there some fairly simple method of finding the bottom-hole pressure of a well? Why is the determination of bottom-hole pressure regarded as of special importance by some petroleum engineers?

There are several different methods of ascertaining bottom-hole pressure. In a paper presented before the petroleum division of the American Institute of Mining and Metallurgical Engineers, C. V. Millikan and Carroll V. Sidwell, of the Amerada Petroleum Corp., say that in an inactive well the bottom-hole pressure may be calculated from the fluid head or, if the well is shut in, by adding the casing-head pressure, the static head of the gas and the fluid head. In wells flowing through tubing naturally the pressure at the bottom of the tubing may be calculated by adding the pressure at the casinghead between the tubing and the casing and the pressure due to the column of gas, but there is always possibility of error caused by fluid being in the annular space above the bottom of the tubing.

If a well with tubing is flowing through either the annular space or the tubing, sufficient gas may be injected through the static space to insure that it is free of fluid but not sufficient to establish an appreciable friction loss. The pressure at the bottom of the tubing can then be calculated by adding to the pressure at the tubing head the pressure due to the weight of the column of gas. This is probably the most accurate method of calculating bottom-hole pressures. In wells flowing by gas-lift the pressure at the point where the gas enters the flow may be calculated by a gas-flow formula.

Several types of pressure bombs have been used to measure the pressure at the bottom of wells. One is a piece of steel tubing with a check valve in the bottom and a connection for a pressure gauge at the top. It is lowered into the well to the point at which the pressure is desired, then brought to the surface and the pressure read from a gauge put on the top connection.

Mr. Millikan and Mr. Sidwell assert nothing is more important in petroleum engineering than a definite knowledge of the pressure at the bottom of an oil well at any existing operating condition, and the relation of this pressure to the pressure within the producing formation. A knowledge of bottom-hole pressures is fundamental in determining the most efficient methods of recovery and the most efficient lifting procedure, and yet there probably is less information about these pressures than about any other part of the general subject of producing oil. A knowledge of bottom-hole pressures in pumping wells will give as much information for solving recovery problems as in flowing wells. It will show also whether the rate of production obtained is limited by the capacity of the pump or by the capacity of the sand to deliver oil to the well.

MORE INFORMATION NEEDED

A well drilled to a depth of 4,992 feet came in a great gas producer, along with 150 to 175 bbls. of high-grade crude. In which direction from this well should another producer be found, Or would you think the first well was not drilled deep enough, Kindly give me your views on a well of the type described.—A. R.

You fail to give such information as should be in hand to lay before a geologist or a production engineer as the basis for an opinion and advice. You do not even name the field in which your well was drilled.

In a general way it can be stated that gas will be found near the top of the structure, with the oil further down the flanks, and below the oil will be found the edgewater. If you now know that your well is located on top of the structure, it might be suggested that you move down dip for your next location, but what direction that would be from your present well nobody uninformed concerning the geological characteristics of the area could say.

As you are considering investing money in drilling another well, why would it not be a good idea to call upon a consulting geologist for his advice and report? The cost of such services is not excessive and by studying the log of the well now completed, and making a survey of the area a geologist could give you good advice and much more reliable information than you can hope to get by correspondence.

WHY WAS IT CALLED THAT?

PRORATION

When need arose for a verb meaning to divide or distribute proportionately somebody coined "prorate" by the simple expedient of joining the two Latin words "pro" and "rata" into one and changing the final "a" to "e," thus giving it English form. The new word soon became established in the language.

You may search dictionaries only a few years old in vain, however, for the word "proration." But that was needed too, and it was an easy matter to make it from "prorate," just as "creation" is made from "create," and so we have this word which in recent years has become firmly fixed in the oil man's lexicon.

OILS OF ASPHALT BASE

Is all the oil found below the red beds black oil of asphalt base? Does the Pennsylvania formation produce high-grade paraffin base oil in Oklahoma?—H. C. P.

If you mean all the oil found in the Permian or below that formation, the answer is no, for the Pennsylvanian, Mississippian and Ordovician formations found under the "red beds" of Permian age contain sweet oils. The Permian oil of western Texas and in many other regions does contain sulphur, but this does not necessarily mean that it is an asphaltic base oil. Your question is too general for a direct answer.

The Pennsylvanian oils of Oklahoma are usually of the paraffin base type.

OVERSTRAINING THE TOOLS

A thing that is often done on the lease when using chain tongs is to stick a piece of pipe over the handle in order to get a more powerful pull. I claim this is a bad habit. Although I never did see tongs broken by using them that way, I figure that they were made to stand just about the amount of strain that their handles allow and that if you lengthen the handle you are straining the tongs. To settle an argument will you say whether I am right or wrong? I think my idea about this applies to misuse of other oil-field equipment, too.—E. N. S.

Unquestionably your contention is right. The practice you describe is condemned in an American Petroleum Institute paper by E. S. Durward, of the Shell Petroleum Corp., in which he says: "Never use tools for a purpose for which they were not intended. For instance, it is a common practice to put a piece of tubing over the handle of a chain tong to increase the leverage. This results in strained or broken tongs. These tools are designed to stand up to use with the power an average man can put into them and for a given maximum size of pipe. If they are used on pipe larger than intended for, of course the leverage provided in the handle is not enough to enable one to make up the joint. However, neither is the bearing surface of the jaws wide enough to stand the strain of an increased leverage from a piece of pipe, so while the pipe allows of the making up of the joint, it also increases risks of crushing the pipe and breaking the tongs and teeth from the overload.

"Use the right size pipe tongs and do not increase the leverage with pipe and your tongs will last out. In breaking out tight joints which require more power than normal, use larger size chain tongs than necessary. You will then have more leverage and a tong that can stand the strain without damage. This rule applies to all tongs, wrenches and similar tools.

"As with hand tools, do not use a machine for purposes not intended or for loads it was not designed for, if you wish to have long life. To illustrate this: It was noticed by the Shell Petroleum Corp. that gas engines always broke down during pulling jobs or shortly afterward, so whenever possible tractor winches were used for pulling jobs and the gas engine trouble became very little indeed. The reason simply was this: When pumping the 25 or 30 horsepower engine used only from 8 to 15 horsepower, but when pulling they were raced and developed all the power they had in them. They were not used right because no internal combustion engine, be it gas, gasoline or oil, has any long life or is free from trouble if it is operated in excess of 75 per cent of its rated horsepower.

"All admit the modern engine of a given power will stand up as its older types never did. That is because it is used right, more than for any other reason. Load the modern engine as heavily as you loaded the older engines and you are in trouble.

"The writer has done it, and, while it did better than the older engine, still it gave more trouble than it should have done and finally broke down beyond repair. Moral: Use them right. The same reasoning holds good for pumping rig equipment, walking beams, hangers, cranks, pitmans, pumping jacks, sucker rods and so forth. Do not use equipment designed for a 2,000-foot hole and 2-inch tubing on a 3,000-foot hole with 3 or 4-inch tubing. It will do the job for a while but the life will be very short. Install equipment where it belongs and use it right. It is very poor economy indeed to work equipment too near its failure point. Have a good safety factor."

Personal Paragraphs About Oil Men

Campbell M. Hunter, O.B.E., English geologist, is now in Calgary, Alberta.

* * *

Harry I. Miller, manager, oil country sales, for Detroit Graphite Company, is spending a few days in Tulsa.

* * *

Frank Briniger, Continental Supply Company, St. Louis, Mo., visited the Tulsa office of the company last week.

* * *

John W. House, of the Humble Oil & Refining Company, San Antonio, Tex., has moved to McCamey, Tex.

* * *

Dr. W. F. James, geologist, has been elected to the board of directors of the Acme Gas & Oil Company of Toronto.

* * *

T. J. Boyd, Jr., sales representative of the Mathieson Alkali Works, Inc., New York, is on a trip through the Southwest.

* * *

J. A. Moffett, vice president of the Standard Oil Company (New Jersey), has returned from a visit to England and the Continent.

* * *

V. C. Fuller, purchasing agent of the Gypsy Oil Company, Tulsa, has returned from a business trip to the home office at Pittsburgh, Pa.

* * *

H. P. Quinn, representative of Jones & Laughlin Steel Corporation, has returned to Tulsa after a nine weeks' business trip to California.

* * *

Fred W. Graves, representing the National Bearing Metals Corporation, St. Louis, Mo., called on Mid-Continent oil company buyers during the past week.

* * *

O. E. McClatchey, purchasing agent of Barnsdall Oil Company, has left for a business trip to Omaha, Neb., Council Bluffs, Iowa, and other northern points.

* * *

E. B. Smith, sales representative of the Bradford Motor Works in North Texas fields, with headquarters at Wichita Falls, is spending a two weeks' vacation in Tulsa.

* * *

Dr. A. E. Dunstan, chief chemist of the Anglo-Persian Oil Company, has been elected to the Mineral Resources of the Empire Committee of the Imperial Institute.

* * *

Longstreet Hull, former municipal counselor and city attorney of Oklahoma City, Okla., will enter the legal department of Continental Oil Company at Ponca City, Okla., May 20.

* * *

Mr. and Mrs. King Hueston have returned to Petrolia, Ontario, on three months' furlough from Talara, Peru, where Mr. Hueston is on the International Petroleum Company staff.

* * *

George W. Eads, assistant purchasing agent of the Twin State Oil Company, has returned from a visit to his old home at Charleston, W. Va. His mother accompanied him back to Tulsa.

* * *

Robert C. Heal returned recently to Petrolia, Ontario, from the Brunei and Sarawak Fields. Mr. Heal, who has been on drilling contracts in British Borneo for the past 10 years, was last home in 1927, but has been spending the past five months in England.

* * *

John McLeish, director of the Mines Branch, Department of Mines, Ottawa, Canada, is one of three members of a board set up recently by the Province of Alberta to supervise and control the flow of gas in the Turner Valley Field. Mr. McLeish paid his first visit to Alberta near the end of April. He will make a second visit about midsummer and a third near the end of the year.

Walter A. Drake has been appointed manager of the Oklahoma City, Okla., store of the Oil Well Supply Company.

* * *

R. C. Stamets, manager of pipe sales for the Oil Well Supply Company, is spending a week in Tulsa, calling on the trade.

* * *

Stanley Winter, of the land and law department of the Ohio Oil Company, has been doing some work for several months in Nebraska.

* * *

J. P. Ferguson, assistant general manager of sales, Reading-Pratt & Cady Company, Inc., Bridgeport, Conn., is making a trip through the Southwest.

Men of the Industry

H. N. Pardee

H. N. Pardee, assistant production manager of The Texas Company in Tulsa, after passing his boyhood in Pennsylvania, went to California with the rest of the family soon after graduating from high school and got a job with an engineering crew surveying for a pipe line through the Puente Hills for the Puente Oil Company. Then he dressed tools for the same company. From 1913 to 1919 he worked first as a tool dresser then as driller for The Texas Company in Texas, where his father had gone. In 1919 Mr. Pardee became district superintendent for the Humble Oil & Refining Company at Desdemona. Two years later the company gave him full charge of the north central division of Texas, with headquarters in Cisco.

In 1925 Mr. Pardee became general manager for the Landreth Company and in 14 months he carried the company's production from 12 barrels a day to 5,500 barrels. In 1926 the company sold out to the Phillips Petroleum Company for $5,500,000. Mr. Pardee then drilled some wells for himself, nine of them, all dry. At this juncture he was asked to serve as umpire in the proration of the Winkler County Pool, and agreed. In 1929 Mr. Pardee resigned this office to become assistant to L. E. Barrows, production manager for The Texas Company in the Fort Worth office. In July, 1930, the company transferred him to Tulsa to become assistant to E. R. Filley, who has charge of production in Oklahoma, Kansas and Kentucky.

Mr. Pardee is a thirty-second degree Mason and a Shriner. When vacation time comes he visits his mother in Los Angeles, Calif., and while there he usually manages to do some fishing in the Puente Hills.

J. B. Aug. Kessler, managing director of Royal Dutch Company, is visiting Royal Dutch affiliates in the United States.

* * *

W. T. Deacon, vice president, St. Louis Surfacer & Paint Company, St. Louis, Mo., is in the Mid-Continent, calling on the trade.

* * *

L. F. G. Wilking, superintendent of The Texas Company, Casper, Wyo., refineries, has left for New York City on a business trip.

* * *

P. G. Weidner, chief engineer for Midwest Refining Company, Casper, Wyo., made a business trip to the company's Denver, Colo., offices recently.

* * *

Albert Miller, superintendent of production and field engineer for British Controlled Oilfields, Ltd., has returned to London from a visit in Venezuela.

* * *

E. N. Koonsman, Dallas, Tex., representative of the Pittsburgh-Des Moines Steel Company, called on the oil trade in Tulsa and vicinity during the past week.

* * *

Heinrich van Reidmann, of Zurich, Switzerland, a director of the Standard Oil Company (New Jersey), is visiting the New York headquarters of the company.

* * *

Thomas H. Sherman, assistant general manager, was recently re-elected to that position by the board of directors of the Oil Producers Sales Agency of California.

* * *

A. R. Wilson, division manager, and L. J. Daly, division superintendent, The Texas Company, with Denver, Colo., headquarters, were in Casper, Wyo., en route to northern Montana.

* * *

H. J. Duncan, supervisor of the mineral leasing division, U. S. Geological Survey, with Casper, Wyo., headquarters, is on an inspection trip of Federal oil leases in Colorado and New Mexico.

* * *

Edward T. Knudsen, statistician of the California Petroleum Economics Division of the U. S. Bureau of Mines, with offices in San Francisco, recently became the proud father of an 8-pound baby girl.

* * *

R. E. Bering, president of the Lincoln Petroleum Corporation, spent several days in the San Joaquin Valley, California, last week making a survey of leases but has subsequently returned to Los Angeles.

* * *

W. Fraser, a director of the Anglo-Persian Oil Company, and R. L. Watson, managing director of the Burmah Oil Company, arrived in New York last week on the "Europa" for conferences with American oil men.

* * *

Carl T. Newcomb, superintendent of the Richmond Petroleum Company of Venezuela, paid a visit recently to the Los Angeles and San Francisco offices of the Standard Oil Company of California, the parent concern.

* * *

At the annual meeting of the Standard Oil Company of California, officers of the corporation comprising K. R. Kingsbury, president, W. H. Berg, H. D. Collier, R. W. Hanna and Oscar Sutro, vice presidents, were re-elected.

* * *

Allan M. Cullum, of the Frick-Reid Supply Corporation sales force, resigned his position effective May 1. He will engage in personal business at Reading, Pa. V. C. Canter, of Tulsa, joined the sales force of the organization on May 1.

* * *

John T. O'Neil, independent oil producer and one of the dominating factors in the Wellington Oil Company of California and the L. A. New Mexico Oil Company, was recently elected to the board of directors of the Seaboard National Bank of Los Angeles.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas, and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

OCTANE RATINGS AND ROAD TESTS

Just how close are octane number determinations of the same gasoline when made by different laboratories supposed to check? How do gasolines graded on octane numbers compare when tested under properly standardized road tests? —B. C. H.

It is essential when making knock rating determinations in the laboratory that a fixed procedure be adopted and these outlined, together with mention of the kind of engine, when making the report. The Series 30 engine of the Ethyl Gasoline Corp. and the C.F.R. engine developed by the Co-operative Fuel Research Committee, are in use for determining knock ratings of motor fuels. When these engines are used under identical conditions, 600 r.p.m. and 212° F. jacket temperature with reliable reference fuel, the results should be comparable. If all standard conditions are observed the knock ratings made on two different engines of the same type by different operators should check to two octane numbers. Knock rating should be reported as whole octane numbers.

Reliable investigators have demonstrated that the fuel showing the highest knock rating will not always give the best performance when used under road test conditions. Gasolines of different knock ratings may show up the same under driving conditions and others of equal rating may give unequal results as to knocking under speed tests. Fuels differing as much as 10 octane numbers have been found to produce a knock to the same degree, and one of two gasolines of the same octane number will knock at 15 miles per hour while the other will knock at 40 miles per hour. This variation in performance is thought to be due to the nature of and the quantity present of the cracked hydrocarbons in the gasoline.

There is considerable misunderstanding concerning the method for determining octane numbers and their meaning, notwithstanding the fact that the term has frequently been defined. The determination is not made by chemical analysis but is simply the result of a comparison of the performance of fuels of known octane content, standards, and the fuel in question in a test engine. The test engine is equipped with a duplicate fuel supply system, so arranged that first one fuel and then the other may be used, the change being made instantly. Consequently the comparison is quickly made and duplicated as frequently as may be desired. When the knock of the gasoline under test equals, (matches) that of one of the known fuels, say the one containing 70 per cent octane, then the unknown is graded as 70 octane number. It is plain that this matching must be done with a great degree of care, the engine must be in perfect order and the standard conditions closely followed if the results by different operators are to be relied upon.

PYROPHORIC DEPOSITS

You state in your article "Dangerous Gases in the Oil Industry," The Oil and Gas Journal, March 24, 1932, page 13, "Deposits of this kind are liable to form during dry cold weather." We wonder what you mean here? We know that static ignition of gases occurs during crisp dry weather more often than under warmer or more humid conditions, but never thought that the atmospheric conditions had any influence on rate of deposition of iron sulphur compounds in storage tanks.—N. B. M.

The reference to the formation of pyrophoric deposits is intended to be considered in connection with the treating of petroleum products, distillation and storage of oil containing hydrogen sulphide and under conditions in here, sulphides may be formed.

The following is from the U. S. Bureau of Mines, R.I. 3,160, February, 1932:

"Iron sulphide, resulting as a natural corrosion product in the field, occasionally possesses the property of being spontaneously combustible, or is pyrophoric. This is generally explained as being caused by rapid oxidation of the sulphide. Nevertheless, since all iron sulphide is not pyrophoric, it appears that the scale must be formed under a rather definite set of conditions before a pyrophoric material is produced. Mellor observed that if ferrous sulphide is strongly compressed and subsequently exposed to moist air, it becomes pyrophoric. Weyman believed that pyrophoric iron sulphide is of the composition, Fe_3S_8. Pearson and Robinson considered all iron sulphides to be readily oxidizable, but usually not pyrophoric unless extracted with carbon disulphide, which removed the thin film of free sulphur that protected the sulphide particle from oxidation."

The several pyrophoric deposits that have come within my experience have been formed in tanks, towers and agitators. Excess moisture seems to inhibit the rapid oxidation required for the development of sufficient heat to ignite hydrocarbon gases or petroleum vapors. The masses of sulphide deposits formed in the upper parts of tanks or the material brought out of tanks and exposed where they dry off rapidly have been noted to be pyrophoric. A tower which had been packed with iron screening, contained such large quantities of pyrophoric deposits that it flashed repeatedly when opened, and this was finally brought under control by flooding the tower with water.

The condition of the atmosphere does not appear to influence rate of deposition in tanks, but exposure to the proper atmospheric conditions seems to influence the thermo chemical reaction.

CONVERSION FROM WEIGHT TO VOLUME

Being dealers in lubricating oil, we often need to convert weight to volume. We have used a conversion table in which pounds per gallon were given according to A.P.I. degrees; for instance, 7.882 pounds per gallon for A.P.I. degrees 18.0 and 7.877 pounds per gallon for 18.1 A.P.I. Can we obtain sufficiently accurate results by using this table even when handling with comparatively large figures, such as 80,000 pounds? Kindly show us the formula by which we can obtain a more accurate figure for pounds per gallon.—I. Y.

The standard volume and weight tables of the United States for use with petroleum oils are those published by the U. S. Bureau of Standards, Circular 154, 1924, which may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., upon payment of 30 cents. These tables are based on a temperature of 60° F., and the use of several coefficients of expansion, which range from 0.0004 for the heavier liquids up to and including 0.00085 for the lightest. The low figure of 0.0004 may be used for all liquids having an A.P.I. gravity below 35°, and therefore includes the lubricating oils. Any observation of gravity that may be made should be corrected to 60° F. before the data are introduced into any calculation.

Table 5 of Circular 154 shows the equivalents for A.P.I. degrees, specific gravity, pounds per gallon and gallons per pound when accepting the weight of 1 gallon of water to be 8.328 pounds, or 0.1201 gallon per pound. In this table 18° A.P.I. is shown to be equivalent to specific gravity 0.9465, and (0.9465×8.328) 7.882 pounds per gallon or $\left(\frac{1}{8.328}\right)$ 0.1269 gallon per pound; also, 18.1° A.P.I. is equivalent to 0.9459 specific gravity, 7.877 pounds per gallon, and 0.1270 gallon per pound. It is convenient to use the last mentioned figure, for each gravity, as a multiplier to convert the 80,000 pounds to gallons at 60° F.

THERM FOR MEASURING GAS

I am enclosing an ordinance passed by our council and the gas is sold per therm. Will you please let me know the comparison between the therm and the 1,000 cubic feet of gas and what 1,000 cubic feet of gas would cost at the figures as given in the ordinance?—M. F.

The ordinance is too long and much too involved for me to make a complete analysis of the price schedules shown, but this discussion will enable you to complete the necessary calculations and to draw your own conclusions.

Natural gas does not vary to a great extent so the heating value is fairly constant, usually close to 1,000 B.t.u. per cubic foot. Manufactured gas runs all the way from 200 to 650 B.t.u. These facts suggest that a gas which is to be used for fuel purposes should be priced according to heating value. It has been advocated that all fuels should be sold on the basis of heating value, expressed as calories or B.t.u. The therm is related to this idea and a special definition of its value has been proposed for the sale of gas. The therm may have several different values, but the special equivalent that has been adopted for the marketing of gas is that the therm is equivalent to 100,000 B.t.u.

Accepting this equivalent for converting therms to cubic feet of natural gas, showing a heating value of 1,000 B.t.u. per foot, it means that a therm is equal to 100 cubic feet.

According to Schedule 1 in the ordinance, the rate for all gas consumed above the first 100 therms is 12 cents per therm. On a cubic foot equivalent this would be at the rate of $1.20 per 1,000 cubic feet.

AMMONIA EXPLOSIVE CONDITIONS

Is ammonia gas considered to be an explosive, especially if it is subjected occasionally to an electrical discharge while in contact with metal? What is the reason for the explosion of cylinders containing ammonia?—C. R. C.

Ammonia is not easily decomposed under ordinary conditions and I do not know of real explosions, that is sudden decomposition, being caused by ammonia.

Large quantities of ammonia are handled in steel cylinders under a pressure of about 150 pounds to the square inch, and if these cylinders are placed so that they become hot, the metal is liable to be ruptured as a result of the excessive pressure built up by the expansion due to the increase in temperature. This is not due to the ammonia because any gas, or even a liquid, would behave in the same way.

A report by L. M. Henderson in Ind. Eng. Chem., News Edn., March 20, 1932, page 73, describes an explosion of mercury and ammonia that may be of interest. Part of this report follows: A mercury manometer, attached directly to a liquid ammonia line, had been in use for one or two years from 1928 but was not in active service thereafter. Several other manometers were used under the same conditions. These instruments were removed for cleaning October 26, 1931, and four were freed of loose dirt and iron rust by means of an air blast without mishap. However, the instant the air was directed into the fifth manometer it exploded violently, shattering a one-quarter-inch cast iron elbow and sending several pieces of metal through windows making comparatively clean-cut holes, indicating that the fragments were traveling with high velocities.

The exact cause of the explosion is not known. It is practically certain, however, that it was not due to combustible gases, for the passageways through the relatively short lengths of metal tubing of the manometers had been open to the air for several hours, permitting the diffusion and escape of ammonia and any other vapors present. Furthermore, the explosion was far too violent to be attributed to the ignition of gases. It would appear that the explosion was caused by some compounds formed by the interaction of mercury and ammonia. This hypothesis is rendered more tenable by Van Brunt's report, Science, 65, 63-4, 1927, of a violent explosion which occurred in a U-tube of wrought iron containing mercury in contact with the vapors from a strong aqueous solution of ammonia. This explosion was limited to a small area at the surface of the mercury on the ammonia side of the U. The three-sixteenths-inch iron of the pipe was opened at this point over an area of about 4 square inches and a piece about 1 inch square was driven out with great force. There was no damange or evidence of high pressure elsewhere in the system.

There is little in the literature to indicate that mercury in contact with liquid ammonia at room temperatures constitutes an explosion hazard, but the above examples present definite evidence that such a hazard does exist and that contacting of mercury with ammonia for appreciable periods of time, even at relatively low temperatures, should be avoided.

Natural Gas Industry Developments

RECEIVERS APPOINTED FOR APPALACHIAN CORP.

WILMINGTON, Del., May 9.—Three receivers have been appointed in chancery court for the Appalachian Gas Corp., a holding concern controlling numerous public utilities. The receivership bill was filed by Theodore W. Hauer, owner of 500 shares of common stock. The receivers named were Arthur B. Koontz of Charleston, W. Va., O. Howard Simonds of Glen Ridge, N. J., and Elwyn Evans of Wilmington.

The corporation filed an answer admitting insolvency and consenting to the appointment of receivers.

The corporation has an authorized capital of 500,000 shares of preferred stock and 10,000,000 shares of common. It has outstanding convertible 6 per cent debentures in the principal amount of $13,029,500.

The business of the corporation consists of owning stock and other securities of other corporations. It owns 100 per cent of the common stock of Texas Gas Utilities Co., Monroe Consolidated Gas, Commonwealth Gas Corp., Carbon Black Production Corp. and Appalachian Management & Engineering Corp.

The corporation also has large stock interests in the West Virginia Gas Corp., Wayne United Gas Co., the Empire Corp., the Memphis Natural Gas Corp., Ohio Valley Gas Corp., and the Alleghany Gas Corp.

The bill of complaint states that the corporation will not have available funds to meet and discharge the semiannual interest payment on its debentures, the principal amount of $818,000 on a note and accounts payable, all falling due this month.

The bill adds that a protective committee representing owners of debentures has been, or is about to be formed, to make a plan of reorganization and that such reorganization could be carried out only if receivers were appointed.

JACKSON FIELD HAS HIGH HEATING VALUE

The Jackson gas field, adjacent to the city of Jackson, Miss., is described in a report recently issued by the U. S. Geological Survey. The bringing in of the first gas well in this field in February, 1930, was followed by intensive drilling, and within the next year 42 gas wells had been completed with a total daily open flow capacity of over 1,250,000,000 feet of gas.

Gas from the field is distributed by the United Gas Public Service Co., the Mississippi Power & Light Co., and the Mississippi Industrial Gas Co., and the output of two wells is consumed by the Gulf States Creosoting Co. The gas has a high heating value and contains a large percentage of methane. It is produced from a Cretaceous chalk 2,088-2,236 feet below sea level, in three separate areas where the chalk and the overlying rocks have been upwarped into domes or anticlines.

W. J. HIGHTOWER PROMOTED

The directors of the several companies comprising the Charleston Group of properties of the Columbia Gas & Electric Corp. have elected W. J. Hightower of Charleston, W. Va., treasurer. The companies are situated in West Virginia, Kentucky and part of Ohio. Mr. Hightower was formerly assistant treasurer, and has been connected with the companies since 1914. The election to the position as treasurer comes to Mr. Hightower as a recognition of his untiring energy and faithful service, and his many friends throughout the industry will be pleased to learn of this well merited promotion.

RIGHT TO GAS FROM OIL WELLS CHALLENGED IN TEXAS FIELD

By B. D. Stevenson

SAN ANTONIO, Tex., May 9.—The right of gas companies to take gas from oil wells for commercial purposes was challenged in the proration hearing in San Antonio held by the Railroad Commission, with reference to Southwest Texas fields. It was held by oil men that the gas was more valuable as a lifting agency to produce oil than it was in a gas company's line and that in the interest of conservation the oil must first be produced and when the field is depleted of oil the gas would still be there and available for use.

The hearing opened on the Refugio Field. John S. Ivy, geologist of the United Production Co., gave detailed information on the field and stated it as his opinion that the field had declined to a point where it was past proration. There were no exceptions taken to Mr. Ivy's testimony though Robert Hardwicke, attorney for the Texas Oil and Gas Conservation Committee, was present, accompanied by E. H. Eddleman, executive vice president, and asked a number of questions of each witness on each field.

Mr. Ivy showed in his statement that the Refugio Field from a production of 351 bbls. daily average in November, 1928, had gone to a peak of 37,658 bbls. daily average for March, 1930, dropped to 25,124 bbls. daily average for October, 1930, at which time the 6,400-foot sand was discovered and the field went back to a peak of 32,661 bbls. daily average for February, 1931, since which time he showed the production had dropped off rapidly and more recently precipitately and for April, 1932, the daily average was 7,716 bbls. from 135 producing wells. A total of 246 wells has been drilled in the field since its discovery. He stated that only three wells had been drilled in the last six months and only one drilling at this time.

To produce the 7,716 bbls. of oil it is necessary to lift a total of 70,000 bbls. of fluid, the remainder being water, and with a use of 177,000,000 feet of gas daily. The average oil-gas ratio is 23,000 feet of gas to the barrel but the gas-fluid ratio is only 2,500 feet to the barrel. He testified there are 10 pumping wells at this time, and oil is produced by the circulating method pumping oil and gas into a well to lighten the column and of the 177,000,000 feet of gas 122,000,000 feet is used again in the circulating method. He testified no dry gas was being wasted.

At the suggestion of R. A. Shepherd, attorney for the United Production Co., and on the testimony of Mr. Ivy, the commission considered the Fox Field, a couple of miles northeast of the old Refugio Field as a separate field. Mr. Ivy testified that this field is a new field of four wells producing and two being drilled with the United Production Co. owning all but two small leases on the edge of the field which has now a daily average production of 1,672 bbls. Only one of the four wells is producing a small amount of water and the gas-oil ratio is 1,200 feet to the barrel.

The claim was made for this field the same as for the Refugio Field that no general proration order could be drawn applicable to the entire field and that each well must be handled separately, due to lensing sands and to varying conditions in the field. Cost of wells in both fields it was claimed is around $10 a foot or $60,000 to $65,000 for wells completed in the 6,400-foot sand.

Of the four wells in the Fox Field it was stated that No. 1 Fox at 5,886 feet is producing 467 feet of gas to the barrel of oil, No. 2 Fox at 5,872 feet total depth producing 1,274 feet of gas to the barrel, No. 4 Lambert at 5,925 feet total depth producing 3,382 feet of gas to the barrel and No. 1 Lambert being produced by the circulating method.

Pettus Field

In the afternoon the commission took up the Pettus Field at which time the question was raised as to allowing gas to be taken from oil wells for commercial purposes. F. C. Sealey of The Texas Company was on the witness stand and Harry Pennington president of the Independent Petroleum Association of San Antonio sought by questions to bring out that the United Production Co. had taken enormous amounts of gas from the field to the detriment of the field. Mr. Pennington testified he did not have figures but knew enormous amounts of gas had been taken and advanced the argument that the Ray-McKinney or east end of the field was interconnected with the townsite pool and that by lowering the gas pressure water had forced the oil up into the gas horizon taking the place of the gas and that oil going into a dry gas sand was permanently lost.

Olin C. Bell, geologist for the Humble Oil & Refining Co., took the stand with reference to the Government Wells Field in Duval County and gave some general testimony as to the geology of the field and conditions. At the close of April there were 66 wells in the Government Wells Field and south extension, 22 being in the south extension. The peak was reached in November, 1931, with a daily average of 8,500 bbls.

The Humble has three wells at the north end of the extension producing about 1,400 bbls. of oil, total for the three, and an average of 400 feet of gas to the barrel of oil. He thought the gas wells should be closed in until the oil is produced though this might be with the loss of some gas to the gas company. The United Production Co. owns the gas in the Magnolia Petroleum Co.'s gas well on the west side of the field.

R. F. Schoolfield, of the Duval Oil Corp., questioned Mr. Shepherd of the United Production Co. as to the price being paid for gas from the Magnolia well and as to how long it would take for the owner of a well to get paid back. Mr. Schoolfield volunteered that it was 2 cents per 1,000 feet and that it never would pay for the well, in substantiation of the idea that use of the gas for commercial purposes was not conservation when the gas was more valuable for lifting oil than for commercial use.

E. R. Thomas of Thomas & Tarver, Inc., and other operators were in the witness stand and it was brought out that some wells in the field are using as high as 23,000 feet.

United Production Co. representatives would not admit that the primary object of gas was to lift oil and claimed the owner of the gas had as much right to his product as the owner of the oil. In answer to a question from Mr. Hardwicke as to what the United Production Co. was willing to do in that field Mr. Shepherd said his company was willing to sell its gas well to the oil producers at the cost of the well less the amount of gas that had been taken from it. He stated that his company had built up its gas reserves by buying the gas production from fields that also produced oil and must have protection and would object to limiting the amount of gas from their wells to the amount being taken from wells where the gas was used to produce oil.

McLAUGHLIN CHOSEN NEW METER CHAIRMAN

Eighteen states were represented at the Southwestern Gas Measurement Short Course at Norman, Okla., when registration reached 235. The short course was conducted by the College of Engineering, University of Oklahoma at Norman, assisted by the Corporation Commission of Oklahoma, Oklahoma Utilities Association, Natural Gas Department of the American Gas Association and Natural Gasoline Association of America. B. L. Maulsby, Tulsa, Oklahoma Natural Gas Corp., was chairman of the general committee, made up of representatives from the university and various gas and oil companies. Representatives of several gas equipment manufacturing companies were present with exhibits. The classes were conducted by members of the engineering faculty, assisted by gas utility and gas equipment representatives. The course included addresses, instruction and demonstrations on matters connected with measurement of natural gas and natural gasoline, and principles, repair and testing of various types of meters.

W. R. McLaughlin, of the Arkansas Natural Gas Corp., Shreveport, La., was selected as chairman of the general committee to co-operate with the university in arranging the short course next year.

TWO STATES APPRAISING LONE STAR PROPERTIES

AUSTIN, Tex., May 9.—Laten Stanberry, chief of the gas utilities division of the Texas Railroad Commission, says the Texas commission and the Oklahoma Corporation Commission are co-operating in an appraisal of the properties of the Lone Star Gas Co.

Stanberry said he had been informed the appraisal of the company's properties in Oklahoma started April 4 by the Oklahoma commission would require approximately two months to complete. Appraisal of the company's Texas properties has been in progress several weeks.

The information gathered by each of the commissions will be exchanged, Stanberry said, both states having expressed a desire to co-operate fully in obtaining a valuation of the properties in the respective states. Stanberry said it was impossible for Texas to obtain a true picture of the properties of the Lone Star without evaluating the Oklahoma portion of its holdings, since the company has several lines leading into Texas from Oklahoma and lines from Texas to Oklahoma.

Since the properties are operated as a unit, it is necessary to value the Oklahoma properties to apportion the overhead and other items, Stanberry said.

A conference will be held by representatives of the two commissions to consider the form of the report so as to make it uniform.

PANHANDLE GAS ROYALTIES

AMARILLO, Tex., May 9.—Panhandle gas royalty owners meeting here signed agreements to assign 5 per cent of their income from sweet gas properties to a general fund with which to carry on a fight for higher prices.

It was estimated that the plan would bring in $12,000 a year. One-year contracts were signed.

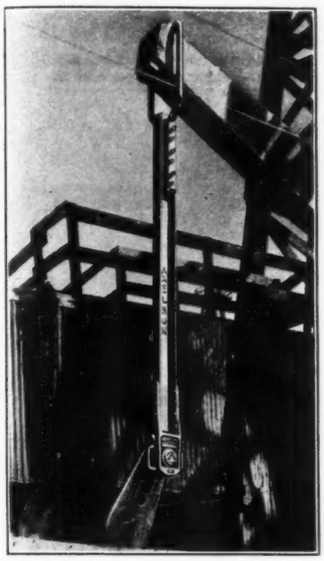
SEMINOLE VOTES FRANCHISE

By a vote of 530 to 30 citizens of Seminole at a special election granted a 25-year franchise to the recently organized, home-owned Seminole Citizens Gas Co. The Seminole Gas Co. still retains its franchise.

Oil Industry Equipment and Supplies

SMOOTH PUMPING GAINED WITH UNIVERSAL PITMAN

Smooth pumping operation and saving in power are said to have been gained in the improved Axelson Universal pitman, made by the Axelson Manufacturing Co., 6160 Boyle Avenue, Los Angeles, Calif. Engineers interested in increasing efficiency are reported to have found that



the Timken roller bearings used in the new type pitman have an actual efficiency of 98.6 per cent. The life of pumping equipment is lengthened, and shocks attributed to "fluid hammer" are eliminated.

Because the bearings are totally enclosed, frequent lubrication is unnecessary and lubrication does not flood the walk and timbers around the pitman. Possibilities of fire or injury to crew are thus reduced. The spherical mounting of the bearing housing allows the pitman to align itself directly between the beam and the crank. To swing the pitman away from the crank, it is necessary only to unscrew the lock nut and remove the tapered key and cap piece. A new circular has just been prepared by the Axelson company describing the pitman and showing in chart form how pumping shock is reduced.

NONMETALLIC SWITCH HOOK

A new switch hook that promotes safety in station operation has been announced by the General Electric Co. This hook is composed entirely of insulating material, and gives, therefore, maximum protection against accidental contact. As the present trend in the design of switching equipment is towards reduction in space, this new switch hook should be particularly appealing to the operator, minimizing as it does the possibility of accidental contact between live parts of adjacent switches or between live parts and framework.

"They Shall Not Pass," is the title of a 16-page booklet issued by the Aetna Ball Bearing Manufacturing Co., 4600 Schubert Avenue, Chicago, on oil seals. Diagrams show the application of a simple new type of seal on various classes of machinery where it is necessary to eliminate leakage of oil, grease, water and other liquids along shafts and to keep grit, dirt and water out of bearings.

NOTES ABOUT TRADE LITERATURE

The Lincoln Electric Co., Cleveland, Ohio, is mailing to those who request it a 24-page booklet describing and illustrating arc welding supplies.

A booklet in two colors, illustrating and describing the newly developed small shop lathe, known as the 8-inch Junior, has just been published by the South Bend Lathe Works.

The current number of the Dutch Boy Quarterly, published by the National Lead Co., New York, contains among other interesting articles, one by J. P. St. George on "How Many Paint Coats?"

"Definite Control of Quality," is the title of an attractively printed booklet of 80 pages prepared for distribution by the Hyatt Roller Bearing Co. and showing scenes in the company's plant in Harrison, N. J.

Two bulletins issued by the Worthington Pump & Machinery Corp., Harrison, N. J., are "Vertical Sump and Irrigation Pumps," four-page bulletin D-450-B7, showing illustrations of installations, cross-section views and table of capacities and sizes, and "Centrifugal Pumps, Monobloc Type" (bolted to motor frame with impeller mounted on motor shaft), eight-page bulletin W-321-S1A showing cross-section view, rating tables, and pump combinations with motor characteristics.

A folder distributed by the Key Boiler Equipment Co., East St. Louis, Ill., describes the LeMay forced feed faucet for extracting heavy, nonflowing compounds from bulk containers.

"Selling the Proper Drill for the Particular Job" is among helpful articles in the current number of the Gardner-Denver News, published by the Gardner-Denver Co., Quincy, Ill.

The unified slit ultramicroscope, a new instrument to simplify the study of colloids, is described in a folder distributed by the Bausch & Lomb Optical Co., Rochester, N. Y.

The Naylor Pipe Co., Chicago, has issued its technical data bulletin No. 32-3, devoted to Naylor spiralweld cement-lined gunite coated pipe.

The Lee B. Mettler Co., Los Angeles, Calif., is mailing a 16-page booklet describing series C triple-control conversion burners and the Mettler automatic safety pilot.

A broadside telling about the Caterpillar mower and the Caterpillar push rake is being sent out by the Caterpillar Tractor Co., Peoria, Ill.

H. O. Swoboda, Inc., Pittsburgh, Pa., is sending out Bulletin 270, which illustrates one type of the "Falcon" bare electric immersion heating units suitable for large tanks used in connection with asphalt, tar, compound, varnish, oil and similar viscous materials which are electrical insulators.

A new boiler catalog of 48 illustrated pages is being distributed by the Foster Wheeler Corp., 165 Broadway, New York. This catalog, numbered Bulletin B-32-3, describes the several different types of boilers manufactured in the corporation's shops and shows how these boilers are applied to complete steam generating units.

Technical data on the use of elastic stop nuts are given in a four-page bulletin mailed by the A. G. A. Co., Elizabeth, N. J.

The Westinghouse Electric & Manufacturing Co. announces two eight-page, illustrated circulars on its new line of De-ion circuit breakers. These breakers use a new method of arc extinction that provides for elimination of all fuses in panelboards, distribution switchboards within the breaker's capacity and industrial applications where fused safety switches are now used.

The Swendeman rotary valve is the subject of a four-page bulletin mailed by J. C. Swendeman, Inc., 171 Camden Street, Boston, Mass.

SAFETY-STEEL WRENCH HAS UNUSUAL STRENGTH

The new Lowell safety-steel wrench, manufactured by the Lowell Wrench Co., Worchester, Mass., and tested to stand a pull of 2,000 to 2,400 pounds, is expected to find wide use in oil and gas fields.

The wrench is made of an electrically treated metal of unusual strength. It is declared by the manufacturers to be so strong that a 2-foot wrench cannot be bent or broken by 10 men with a straight pull. Along with this added strength of metal, the wrench has fully enclosed ratchet and parts with absolute crushing action on hardened steel pawls. Every handle is unconditionally guaranteed not to break.

James S. Watson, formerly vice president in charge of the Link-Belt Co.'s Dodge works, Indianapolis, Ind., has been appointed vice president and general manager of both the Dodge and the Ewart works, the company's two Indianapolis chain factories, succeeding George P. Torrence, recently elevated to the presidency.

NEW BRONZE ROD MAKES EXTREMELY HARD WELD

A new bronze welding rod, "Oxweld No. 25 M. bronze patented welding rod," has been introduced by the Linde Air Products Co., 30 East Forty-second Street, New York. Because of its special characteristics this improved manganese bronze rod is recommended especially in the rebuilding of wear-resisting surfaces such as piston rings or cylinder walls. Besides producing weld metal with superior wear-resisting qualities, this rod has the added advantage of being nonfuming and exceptionally free-flowing. It is said to be possible to remelt and reweld welds made with this welding rod with an ease heretofore considered impossible with a bronze welding rod. This rod is particularly effective for use in the sectional building-up of large pieces, where the weld must be made in successive layers, because there is no heavy slag formed over the weld after it has cooled.

One of the outstanding features of this welding rod is the hardness of the resulting weld. Welds made with it have shown a hardness of 96 Brinell.

MEN KNOWN *in* THE EQUIPMENT FIELD

William E. Knox

William E. Knox, recently made assistant to the general manager of the Westinghouse Electric International Co., entered the Westinghouse organization in 1921, following his graduation from the University of New Hampshire with a bachelor of science degree in electrical engineering. He was engaged in East Pittsburgh for a year on the Westinghouse student course, and upon the completion of it he was assigned to the Department of the Americas of the Westinghouse Electric International Co. in New York.

On the business of the company Mr. Knox has been in Mexico and Canada, and for years was in charge of all Westinghouse sales activities with Soviet Russia. Also Mr. Knox was in charge of the sale of Westinghouse equipment to petroleum companies for use abroad, and he has a wide acquaintance among oil men whose companies operate in foreign fields. His headquarters will be at 150 Broadway, New York.

TOM THUMB MACHINE

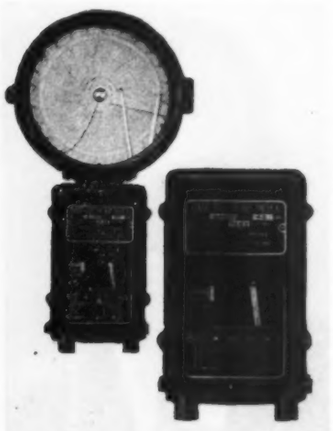
The regular pipe capacity of the new No. 51 Tom Thumb portable pipethreading machine, put on the market by the Oster Manufacturing Co., Cleveland, Ohio, includes all sizes from one-half to 2 inches, with an extra capacity down to and including one-quarter inch. It can be furnished either complete with an oil pump and base containing oil reservoir or the user can oil the dies by hand. The machine also is furnished with or without a pipe cut-off attachment. The dies are of the segment type held solidly in a holder. A separate die head is used for each different size pipe. A VV belt is used for each different size pipe. A VV belt is used for driving from the motor to a spiral micarta pinion then to a spiral gear on the worm shaft. The final drive to the spindle is a triple thread worm mounted on Timken bearings which are automatically oiled.

The Kron Co., manufacturer of industrial scales, formerly the American Kron Scale Co. of New York, and now located in Bridgeport, Conn., has appointed George A. Nichols as its New York district manager. Mr. Nichols' office will be in the Chrysler Building.

Oil Industry Equipment and Supplies

BASE PRESSURE INDEX PERFORMS CALCULATION

A device recently perfected by the American Meter Co., 105 West Fortieth Street, New York, tells at a glance



the exact quantity of gas at standard or base pressure that has passed through a displacement meter, regardless of variations in pipe line pressure. The base pressure index automatically multiplies the quantity of gas passing through the meter at pipe line conditions by the product of the line pressure divided by the base pressure and registers the resultant on a straight-reading index. Any volume and pressure gauge supplied by the American Meter Co. can be installed on the top of the base pressure index. When this is done a supplementary index which is furnished with all base pressure indexes registers the quantity of gas passed at line pressure, and this can be used as a check on the base pressure index.

The chart from the volume and pressure gauge serves as a permanent record of the rate of flow and pressure. However, the integrating mechanism, the manufacturer says, can be trusted with all calculating. The base pressure index may be tested or adjusted in the field.

TO MAKE SCRAPER UNDER THE REYNOLDS PATENTS

The LaPlant-Choate Manufacturing Co., Inc., Cedar Rapids, Iowa, has acquired license to manufacture automatic roll-over scrapers under the Reynolds patents. These scrapers are built in five sizes for use with Models 15, 25, 35, 50 and 65 "Caterpillar" tractors respectively.

These one-man operated automatic scrapers have a simple tripping mechanism which allows the scraper to be tripped while going forward or backward. They are equipped with a self-cleaning latch on the trip which automatically engages itself, permitting the loaded bowl to be slid backward and distance without revolving. By a single pull on the trip lever rope this latch will disengage and permit the bowl to be rotated either backward or forward and dumped. When the load has been dumped this same latch holds the bowl in the dumping position, thus permitting the bottom of the bowl to be used to bulldoze the pile of earth into the desired position by backing up or to spread the earth in a layer when pulling forward.

B. A. Bauer has been made purchasing agent of the National Transit Co., Oil City, Pa. He has been in the employ of the company since 1911. He succeeds the late Lynn Holbrook.

ONE REGULATING VALVE ON EACH SIDE OF ENGINE

One regulating valve is provided for each side of the Transit horizontal, four-cycle, double-acting gas engines developed by the National Transit Pump & Machine Co., Oil City, Pa. One is a conical double beat air valve, which is balanced with respect to pressure. The other is a gas regulating plug valve which is practically balanced as to pressure, arranged to insure a uniform air and gas mixture under all load conditions. The engines are designed primarily for natural gas compressing service and for general power purposes, to operate on either natural or refinery gases.

Formerly each end of each cylinder was equipped with a combination regulating and inlet valve, a total of eight valves for a twin tandem double acting engine.

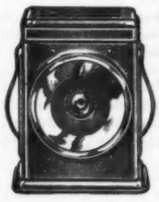
From the fact that the regulating valve is practically balanced, the only reaction on the governor is due to overcoming the relatively slight friction on the bearings and pins in the operating mechanism of this valve. Furthermore, the fact that only one regulating valve is used for each side of the engine materially reduces the duty on the governor, and sensitivity of control is increased.

Particular care has been taken in proportioning these valves, and their component parts, so that the same relative quantities of air and gas are maintained throughout the entire lift of the valve. The proportion of air and gas may be changed to take care of very lean to very rich natural or refinery gases, having a wide range of B.t.u. values.

The use of only one regulating or proportioning valve for each side of the engine, in conjunction with a properly designed mixer, provides a correctly proportioned, homogeneous air and gas mixture, resulting, the manufacturer says, in the following characteristics: Normal operating air and gas mixture need not be enriched when starting, uniform load distribution in all cylinders, elimination of backfiring, low fuel consumption.

DUAL REFLECTION NEW FEATURE OF LANTERN

The Delta Redbird electric lantern, with dual reflection, is said by the manufacturer, the Delta Electric Co., Marion, Ind., to mark a distinct advantage in electric lantern light. Dual reflection, according to the company, give an 800-foot concentrated beam or broad diffusion with no spot. Change from spot to spread is achieved by a flip of the control lever in the base of the lantern.



The large reflector produces the distance light and is 4½ inches in diameter, made of special nontarnishing nickel-aluminum alloy. The small floating reflector is mat silver finished and produces the flood light effect. The back side of the small reflector is highly polished. The lantern is 7½ inches high.

THROWS LIGHT WHERE NEEDED

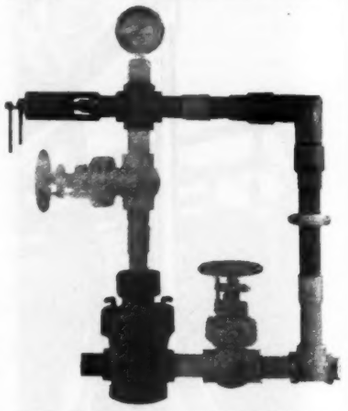
The Benjamin Electric Manufacturing Co., Des Plaines, Ill., has placed on the market the "Mobilite," a weatherproof enamel floodlight, mounted on a free-rolling, three-wheeled truck. The Mobilite makes possible faster and better work by providing good illumination at the heart of the job. For automobile repairing the Mobilite can be rolled under the car and used to light any part of the car being worked on. It facilitates the work in unlighted greasing pits, under hydraulic lifts, and is especially useful in changing tires at night.

La Consolidada, S.A., of Mexico, D.F., one of the largest steel manufacturers in Mexico and a foremost advocate of arc welding in that republic, has been appointed Mexican distributor by the Lincoln Electric Co. of Cleveland, Ohio.

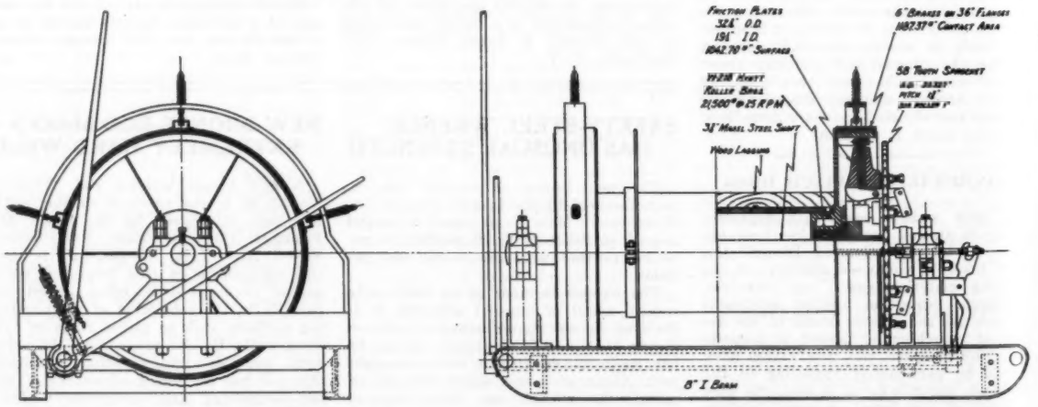
McEVOY DESIGNS HOOKUP FOR EAST TEXAS FIELDS

A new type of well hookup, designed especially for East Texas and similar fields, has been introduced by J. H. McEvoy & Co., 600 Milby Street, Houston, Tex. The hookup includes the standard McEvoy casingheads, a new type adjustable choke which has a full opening when withdrawn, and an adjustable universal ell which allows for adjustment of the length of the tree for ease in installation.

The adjustable ell facilitates installation of the christmas tree, and the elimination of strain due to poor fittings and alignment by men in the field. Aside from allowing the use of any type of valve, it offers sufficient adjustment to permit use of standard ready-cut nipples and fittings. It further is designed to permit the use of any of the McEvoy types of casingheads. The adjustment of the ell as now designed is a total of 3 inches, allowing the use of standard nipples which run in increments of 2-inch lengths. With this type of hookup the well may either be washed in or swabbed.



STATIONARY DERRICK-FLOOR WINCH TO MEET EAST TEXAS CONDITIONS



A stationary derrick-floor winch for pulling tubing and rods, with drum capacity for bailing, swabbing and cleaning-out operations, to be used in combination with rig fronts and other pumping installations, has been developed by the Franks Manufacturing Co., Tulsa. The unit was designed primarily to meet conditions in the East Texas and similar fields.

This unit is driven off a sprocket mounted on the bandwheel shaft through a high-speed roller chain to the winch. It is operated by means of a twin-disc type plate friction clutch whose capacity exceeds several times the power that can be imparted to it with a pumping engine. It is of all steel construction with double 6-inch brake band on 36-inch diameter flanges giving a contact area of 1,187 square inches.

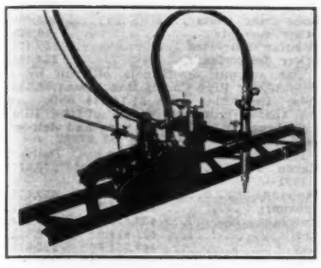
The drum barrel lagged gives ample capacity for bailing, tubing and rods and with the lagging removed will permit the spooling of 4,000 feet of seven-eighths inch clean-out line. The drum is mounted on heavy-duty Hyatt roller bearings and is perfectly free spooling with the clutch disengaged. The brake band supports hold the bands away from the flanges at four points, making this construction fool proof against dragging bands for lowering empty elevators and eliminating the necessity for any reverse mechanism for this operation.

This unit eliminates bullwheels, bullwheel posts, bearings, bandwheel tug, and requires a straightway clutch only instead of a reverse clutch.

Oil Industry Equipment and Supplies

IMPORTANT ADVANTAGES MARK CUTTING MACHINE

The Air Reduction Sales Co., 60 East Forty-second Street, New York, announces the new Airco-D-B No. 4 Radiagraph, an oxy-acetylene cutting machine designed as a successor to the No. 1-A Radiagraph. The carriage has been redesigned with a lower center of gravity and a broader gauge. There is no tendency for the machine to become unbalanced, even with the torch in its outermost position. Two of the four carriage wheels are swiveled and act as trailers.



The clean surfaces of the machine, with a minimum of projecting parts, reduce the chance of serious damage in case of accident or rough handling. Wheels are almost completely shrouded for protection against oxides and dirt when cutting steel.

An improved variable-speed motor of rugged construction and approximately 75-watt rating provides the drive. This motor has practically constant torque at all speeds and maintains an almost constant speed under conditions of fluctuating voltage and increasing temperature.

The machine will operate on either 110 or 220 volt, alternating or direct current, without any change or adjustment, except that the different voltages require individual bottom cover plates on the carriage, with suitable resistors molded in.

The motion of the motor is transmitted to the traction wheels by a double worm reduction and a simple type of clutch. All of the gearing and electric switches are enclosed in a dust-proof case. Gears are heavily lubricated with grease which requires renewal at rare intervals.

Three easily manipulated levers and a thumb screw, grouped near each other on the carriage, comprise the complete control equipment for starting and stopping the motor, adjusting the speed, determining the direction of travel and connecting the motor to the traction wheels. A thumb plate is provided to permit actuating the levers without jarring the machine while cutting. The traction wheels are released from the motor drive by a simple movement of the clutch lever. This allows the carriage to be rolled along the track by hand.

NEW LINCOLN PUSH BUTTON

The Lincoln Electric Co., Cleveland, Ohio, announces improvements in its safety push button introduced last year. A feature is that the start button is inside of the stop button, which can be operated from any angle by merely striking the front of the control box with the flat of the hand, but the start button must be operated with the finger. With the new push button, the stop button can be locked in the off position by pushing it in and twisting it to the right. Heavy springs prevent accidental operation of either button when not locked. It is asserted the button will handle the heaviest control circuits up to 600 volts A.C. or D.C. because the contact opening is larger than usual.

AMONG THE EQUIPMENT HOUSES

Gordon M. Jackson, former president of the Jackson Engineering Corp. of Tulsa, has been made sales manager of Alco Products, Inc., a division of the American Locomotive Co., with main offices in New York.

The American Cable Co. announces that the Macwhyte Co. has been added to the list of wire rope manufacturers licensed to manufacture preformed wire rope under the American Cable Co.'s patents.

The organization of an air conditioning department within the General Electric Co., which will market various electrical devices for heating, humidifying and temperature control, has been announced. One of the first products to be marketed by this new department will be a complete oil-burning furnace.

The Waukesha Motor Co. reports the appointment of the Waukesha Pacific Parts Co. as authorized distributor for Waukesha parts and power units on the Pacific Coast. The company has two establishments, one at 635 Mission Street, San Francisco, and the other at 939 Santa Fe Avenue, Los Angeles.

The Hope Engineering Co., New York, has moved its office to the Continental Bank Building, 30 Broad Street.

Milburn Kusterer, formerly with Ivy Lee & Associates, New York, has been made public relations counsel for Ehlinger & Higgs, Inc., advertising, Tulsa.

The Pittsburgh Equitable Meter Co. has appointed Walter Parker chief engineer of its liquid meter division. Previous to his association with this company, where he has been doing special engineering work, Mr. Parker was chief engineer of the Fry Pump Co.

A conference of district representatives of the Baroid Sales Co., held in Houston, Tex., was attended by George L. Ratcliffe, general sales manager; Harold H. Farnham, chief engineer, and William H. Gross, salesman, all of Los Angeles, and D. A. Sikes, Mid-Continent representative, Oklahoma City. George H. Parsons and J. W. O'Brien represented the Houston branch.

The New England Screw Co. of Boston has been licensed by the Dardelet Threadlock Corp. to manufacture and sell bolts, nuts, and screws with the Dardelet self-locking thread.

The Universal Oil Products Co. has moved its New York office from the Trinity Building, 111 Broadway, to 50 Broadway.

The Axelson Manufacturing Co., Inc., has moved its New York office to 50 Church Street.

The Parker & Harper Manufacturing Co. of Worcester, Mass., has been licensed by the Dardelet Threadlock Corp. to manufacture and sell screw machine products with the Dardelet self-locking thread.

FRITTED GLASS FILTER USEFUL IN LABORATORY

The Fish-Schurman Corp., 230 East Forty-fifth Street, New York, is exclusive United States agent for Jena fritted glass filters, recommended for use in the oil-refining laboratory. Not only does this glass, "G 20," possess excellent thermal durability, but it is highly resistant to the action of water and acids, and even to the attacks by alkaline lyes and other salt solutions.

The physical characteristics of "G 20" glass include a specific weight of 2.418, a tenacity of 765° C., a transformation point (annealing temperature) of 569° C., a softening point of about 660° C., a cubical coefficient of expansion of .0000147 and a linear coefficient of expansion of .0000048.

Jena glass filters are produced from genuine Jena glass, type "G 20" (unless otherwise specified), ground to powder-like particles of a definite size for the various porosities, heated to the sintering point without admixture of any other substance, and thus made into filter discs. These discs are in turn fused direct to Jena glass container vessels of specific sizes and shapes to form extraction thimbles, crucibles, funnels, or other filtering devices.

Jena fritted glass filters are made in seven porosities. Filters with No. 4 porosity will give a clear filtration if the precipitate in the filtering liquid does not remain in constant suspension. The precipitates are then coarse enough not to enter into the pores of the filter. Suitable for filtration of fine oils (transformer oil).

Reeves variable speed transmission is the subject of a broadside being mailed by the Reeves Pulley Co., Columbus, Ind.

STOCKHAM INTRODUCING LINE OF RETURN BENDS

The Stockham Pipe & Fittings Co., Birmingham, Ala., has announced a full line of header box assemblies.

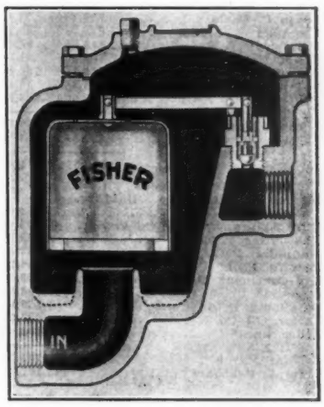
The first header box assembly introduced by Stockham three years ago was the Stockham-Fantz type HPR return bend. This return bend, which may be furnished in the analysis of steel best adapted for the high temperature and corrosive conditions encountered in any specific case, calls for the use of mill upset and machined tubes rather than for tubes which must be rolled in. Thus replacement of a tube is a matter of easy assembly, for any one tube may be removed without disturbing any adjacent tubes. With this HPR type bend it has been found that tube life is increased from 100 to 400 per cent besides effecting other economies in operation. Since the U piece is the only portion of the assembly coming in contact with the corrosive oils or subjected to extreme temperatures, the U piece only need be provided in heat and corrosion resistant alloys if conditions demand it.

The HPR type bend is provided with the ring type joint. The HPR type differs only in that it is equipped with the relieved ball joint.

The new line also includes type SPR, a "scissors" type which slips over the upset tubes pulling them into place acting as a pair of tongs. Where low pressures are used and where corrosion is not serious, Stockham offers type SER which uses plain end tubes which are threaded on the end for the joint at the refinery. In addition, the Stockham line includes a sectional header and a box header both of which have the tubes rolled in. Type CF is designed for condenser coils.

FISHER STEAM TRAP HAS NEW FEATURES OF VALUE

The class ST inverted-bucket steam trap is announced by the Fisher Governor Co., Marshalltown, Iowa, as the result of more than two years' development in the Fisher research laboratories.



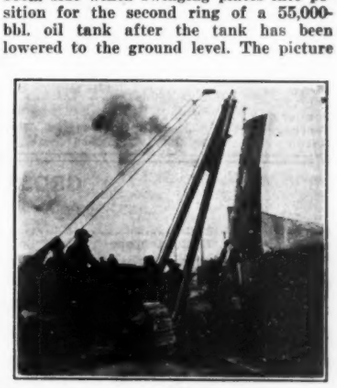
New features, such as the adjustable valve post and positively guided inner valve, are incorporated.

Outstanding construction features include body and cover of semisteel, inverted bucket of heavy-gauge spun brass, lever and pins of stainless steel. Valve and orifice seat are of the heat-treated stainless steel, resisting temperature, wire-drawing, and corrosion. The guided inner valve insures positive seating. The valve post has special adjustment for ease of setting when replacing parts. Pipe connections are horizontal with vertical offset.

With removal of the trap cover all parts are easily inspected or renewed. All parts accessible and renewable while the trap is connected in the pipe line and no special arrangements are required to remove any of the parts.

MODEL PA-20 UTILIZED IN CONSTRUCTING TANK

Here is shown an interesting use of the Model PA-20 Cardwell-Allsteel live-boom side winch swinging plates into position for the second ring of a 55,000-bbl. oil tank after the tank has been lowered to the ground level. The picture



was taken in the White Eagle Oil Co. refinery, Augusta, Kans. Aside from the air-compressor the winch mounted on the wide-gauge Twenty Caterpillar tractor was the only piece of equipment used on the job. The winch set the first ring of plates, lifted the tank so that the cribbing might be removed, lowered the tank and set the upper plates. This application of the PA-20 necessitated designing a special boom for it.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE STATEMENT FOR MARCH

Runs

	Barrels	
	Month	Dly. av.
Gulf P. L. Co.	1,691,685	54,570
Texas P. L. Co.	528,619	17,052
Magnolia P. L. Co.	1,302,958	42,031
Empire P. L. Co.	2,062,628	66,536
Cosden P. L. Co.	587,363	18,947
Stanolind P. L. Co.	3,534,000	114,000
Oklahoma P. L. Co.	3,000,253	96,782
Other lines	3,317,000	107,000
Total March	16,024,506	516,918
Total February	14,705,729	507,093
Difference	1,318,777	9,825

Shipments

Gulf P. L. Co.	1,780,030	57,420
Texas P. L. Co.	758,490	24,467
Magnolia P. L. Co.	1,215,780	39,219
Empire P. L. Co.	1,803,580	58,180
Cosden P. L. Co.	669,556	21,599
Stanolind P. L. Co.	3,782,186	122,006
Oklahoma P. L. Co.	2,908,383	93,819
Other lines*	4,743,000	153,000
Total March	17,661,005	569,710
Total February	15,220,994	524,861
Difference	2,440,011	44,849

Stocks

Sinclair-Prairie Crude Oil Mktg. Co.	35,394,000
Gulf P. L. and Gypsy Oil Co.	7,406,409
The Texas Company	4,139,975
Magnolia Petroleum Co.	8,463,305
Empire P. L. Co.	5,084,211
Mid-Continent Petroleum Corp.	2,453,757
Stanolind Crude Oil Pur. Co.*	15,798,000
Oklahoma P. L. Co.	1,535,247
Carter Oil Co.	4,626,333
Other lines*	15,863,000
Total March	100,764,337
Total February	102,167,312
Difference	1,402,975

*Estimated.

EASTERN PIPE LINE REPORT FOR MONTH OF MARCH

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for February and March:

	Feb., 1932	Mar., 1932
Nat. Transit	126,753.83	134,250.99
S W Pa P. L.	58,939.34	62,615.59
Eureka P. L.	242,556.95	258,022.38
Buckeye P. L. (Macksburg)	220,174.62	235,934.33
Buckeye P. L. (Cleveland)	10,650.06	12,404.18
Buckeye P. L. (Lima, etc.)	69,769.97	79,282.02
Indiana P. L.	2,432.39	2,736.59
N. Y. Transit	42,479.85	44,698.44
Tide Water P. L.	23,346.91	23,533.01
Pure Oil	291,502.56	386,459.21
Stoll Oil Ref.	60,332.05	50,030.49
Bradford Tran.	358,619.95	276,064.32
Ashland Ref.	101,901.07	107,138.13
Total	1,609,459.55	1,773,169.68
Daily average	55,498.61	57,199.02

Petroleum Deliveries

The following table exhibits the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb., 1932	Mar., 1932
Nat. Transit	521,574.03	669,087.25
S W Pa. P. L.	393,740.87	420,480.43
Eureka P. L.	284,915.43	244,754.32
Buckeye P. L. (Macksburg)	197,422.31	224,620.23
Buckeye P. L. (Cleveland)	1,468.37	1,959.71
Buckeye P. L. (Lima, etc.)	1,256,890.69	1,382,090.03
Indiana P. L.	684,053.57	902,270.22
Southern P. L.	29,866.72	52,865.15
N. Y. Transit	164,942.57	190,097.74
Northern P. L.	149,660.95	132,597.12
Tide Water P. L.	373,538.58	437,374.91
Pure Oil	323,613.38	415,810.22
Bradford Tran.	252,933.43	419,093.52
Tuscarora	291,210.02	359,490.05
Total	4,925,830.92	5,852,590.90
Daily average	169,856.24	188,793.26

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of February and March:

	Feb., 1932	Mar., 1932
Nat. Transit	714,830.78	643,440.19
S W Pa. P. L.	404,242.41	347,019.10
Eureka P. L.	1,260,183.19	1,227,281.45
Buckeye P. L. (Macksburg)	286,436.07	336,057.20
Buckeye P. L. (Cleveland)	47,411.90	27,115.36
Buckeye P. L. (Lima, etc.)	2,956,771.37	3,001,209.10
Indiana P. L.	513,552.31	510,968.41
Southern P. L.	241,444.27	239,989.94
N. Y. Transit	195,495.84	202,641.18
Northern P. L.	306,733.15	234,026.98
Tide Water P. L.	863,043.42	891,273.80
Pure Oil	889,617.38	869,696.76
Tuscarora	10,806.74	9,772.59
Bradford Trans	283,781.30	261,700.48
Total	8,974,350.13	8,802,192.54
Decrease	49,564.32	172,157.59

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of February and March, showing gross stocks of the above fields:

	Feb., 1932	Mar., 1932
Pennsylvania	3,178,872.84	2,979,352.40
Lima	599,253.26	595,289.91
Kentucky	10,011.59	9,997.41
Mid-Continent	4,329,220.63	4,397,607.68
Illinois	22,590.52	12,799.24
Michigan	834,401.29	807,145.90
Total	8,974,350.13	8,802,192.54

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1929	1930	1931	1932
Jan.	51,749	75,907	53,939	53,501
Feb.	51,833	79,256	55,163	55,498
Mar.	54,252	76,688	54,331	57,199
April	58,444	84,536	54,914	.....
May	59,902	70,546	53,344	.....
June	58,833	75,430	54,110	.....
July	66,087	68,921	50,723	.....
Aug.	66,087	54,291	51,503	.....
Sept.	67,315	56,595	61,345	.....
Oct.	76,093	58,179	65,595	.....
Nov.	74,831	52,332	59,819	.....
Dec.	74,561	53,999	61,835	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1929	1930	1931	1932
Jan.	165,721	217,623	175,369	186,551
Feb.	159,387	224,355	183,494	169,856
Mar.	161,474	228,846	189,508	188,793
April	169,737	241,845	191,450	.....
May	184,281	248,383	199,247	.....
June	185,404	234,401	221,155	.....
July	194,763	207,094	211,632	.....
Aug.	194,946	205,506	224,166	.....
Sept.	201,214	193,999	217,537	.....
Oct.	191,367	157,675	210,831	.....
Nov.	202,743	146,638	196,425	.....
Dec.	186,257	143,001	176,241	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1930	1931	1932
Jan.	12,220,045	11,831,092	9,023,914
Feb.	12,991,561	11,506,489	8,974,350
Mar.	13,247,217	11,012,162	8,802,192
April	13,233,961	11,044,481	.....
May	13,052,953	10,728,239	.....
June	13,396,855	9,903,349	.....
July	13,268,562	9,569,849	.....
Aug.	13,047,051	9,192,457	.....
Sept.	12,812,018	8,492,431	.....
Oct.	12,437,553	8,417,694	.....
Nov.	11,851,380	8,830,386	.....
Dec.	11,751,952	9,119,032	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

	Bbls.
Gross stocks, April 1	634,473.03
Runs from wells	542,005.69
Other receipts	60,429.07
Regular deliveries	239,475.27
Other deliveries	264,165.16

The amount of Illinois oil run by the Tide Water Pipe Co. in March was 23,533.01 bbls. Deliveries were 31,142.48 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1932—	Runs	Deliveries
March	565,538.70	270,617.75
1931—		
January	468,429.04	669,573.19
February	429,284.54	461,262.85
March	424,638.23	356,663.26
April	421,814.98	282,532.65
May	433,231.80	322,513.95
June	510,805.78	320,258.13
July	520,009.38	289,219.05
August	476,623.56	393,231.06
September	492,183.83	323,012.50
October	498,124.13	325,834.95
November	470,302.63	281,258.48
December	515,771.28	306,623.19
1932—		
January	500,177.12	246,634.10
February	482,561.50	186,010.30

Tide Water Pipe Co., Ltd., also delivered in March 90,506.96 bbls. of Oklahoma oil.

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1931-32—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
April	35,000	10,533	105,000	29,767	35,533	215,833	2,733	3,400	.....	.....	6,133	221,966
May	30,129	8,774	107,000	25,452	26,710	198,065	.....	2,000	.....	.....	2,000	200,065
June	30,067	16,833	111,767	27,000	20,833	206,500	3,300	5,500	2,167	1,333	12,300	212,800
July	26,387	11,226	104,678	29,323	21,773	193,387	6,903	7,419	4,194	.....	18,516	211,903
August	32,613	15,581	91,742	22,387	25,741	188,064	4,161	2,516	.....	3,162	9,839	197,903
September	27,067	7,267	106,867	20,099	22,967	184,267	4,833	8,333	.....	.....	13,166	197,433
October	53,710	14,484	100,774	36,742	40,645	236,356	6,097	6,871	2,097	1,838	16,903	253,258
November	48,033	18,800	51,667	28,400	12,967	170,067	3,933	10,533	3,033	1,367	19,166	189,233
December	20,268	16,806	121,807	21,645	34,258	224,774	1,968	4,355	.....	.....	6,323	231,097
1932—												
January	19,161	8,161	104,065	24,194	34,903	190,484	4,871	7,226	2,096	1,484	15,677	206,161
February	32,483	16,517	128,483	28,862	34,552	240,897	2,034	5,207	4,310	1,379	12,930	253,827
March	25,806	10,516	167,806	38,677	48,129	290,935	5,936	39,774	.....	1,516	47,226	338,161

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1931-32—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
April	5,133	.....	19,200	16,500	10,067	50,900	.....	.....	.....	.....	4,000	54,900
May	4,452	3,064	19,903	11,226	6,258	44,903	.....	.....	.....	.....	2,355	47,258
June	4,267	.....	25,100	6,333	3,500	39,200	.....	.....	.....	.....	.....	39,200
July	6,774	1,194	24,612	11,065	9,902	53,548	.....	.....	.....	.....	1,335	54,903
August	3,452	.....	16,419	7,419	4,290	31,580	.....	.....	.....	.....	963	32,543
September	4,267	3,667	12,933	4,699	7,367	32,933	.....	.....	.....	.....	4,000	36,933
October	2,355	1,129	19,290	16,709	9,323	48,806	.....	.....	.....	.....	3,323	52,129
November	1,000	.....	22,800	11,567	.....	35,367	.....	.....	.....	.....	3,366	38,733
December	3,161	.....	22,484	8,839	6,032	40,516	.....	.....	.....	.....	7,742	48,258
1932—												
January	3,871	1,710	14,483	3,774	5,710	29,548	.....	.....	.....	.....	.....	29,548
February	3,069	.....	9,102	4,862	.....	17,034	.....	.....	.....	.....	2,483	19,517
March	1,516	.....	6,065	.....	.....	7,581	.....	.....	.....	.....	.....	7,581

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1931—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
March:	Month	16,364,842	16,627,687	22,462,619	3,498,593	1,469,245	2,061,576	2,598,035	3,274,000	68,747,602
	Daily average	527,853	536,377	724,310	112,858	47,395	66,502	83,485	105,629	2,217,666
April:	Month	15,803,541	16,815,990	21,837,717	3,281,850	1,412,220	2,008,021	2,901,870	3,273,000	72,384,239
	Daily average	526,785	560,533	727,857	109,395	47,074	66,934	96,729	109,100	2,412,808
May:	Month	16,448,960	17,333,867	23,708,684	3,541,346	1,446,274	2,322,648	3,098,419	3,190,000	75,890,138
	Daily average	530,612	559,157	926,086	107,786	46,654	72,018	99,949	102,900	2,445,166
June:	Month	15,641,436	16,678,200	29,139,833	3,175,440	1,344,450	1,850,511	2,986,200	3,166,000	73,982,070
	Daily average	521,381	555,940	971,327	105,848	44,815	61,684	99,540	105,533	2,466,069
July:	Month	16,093,332	16,420,080	33,827,213	3,089,832	1,287,585	1,715,730	2,905,909	3,541,000	78,880,671
	Daily average	519,139	529,680	1,091,200	99,672	41,535	55,345	93,739	107,774	2,538,078
August:	Month	15,668,984	9,517,279	32,279,816	3,141,323	1,165,569	1,584,444	2,807,143	3,167,000	69,331,558
	Daily average	505,451	307,009	1,041,284	101,333	37,599	51,111	90,553	102,161	2,236,502
September:	Month	15,180,610	7,946,880	28,981,525	3,147,030	1,138,380	1,641,324	2,761,230	3,632,000	64,429,039
	Daily average	506,020	264,896	966,051	104,901	37,946	54,713	92,041	121,067	2,180,968
October:	Month	15,651,983	12,951,893	30,725,173	3,177,066	1,172,389	1,822,255	2,797,597	3,900,000	72,198,356
	Daily average	504,903	417,803	991,134	102,486	37,819	58,782	90,247	125,807	3,328,979
November:	Month	14,997,700	16,430,730	28,860,561	3,131,670	1,130,700	1,851,577	2,706,390	3,639,000	72,748,328
	Daily average	499,922	547,691	962,018	104,389	37,690	61,719	90,213	121,300	2,424,944
December:	Month	15,560,984	16,598,299	27,767,651	3,198,642	1,082,148	1,971,817	2,816,759	3,645,000	72,641,300
	Daily average	501,967	535,429	903,860	103,182	34,908	63,607	90,863	117,581	2,343,268
1932—										
January:	Month	15,532,141	13,664,149	26,410,318	3,170,587	1,101,616	1,792,398	2,444,164	3,566,000	67,681,373
	Daily average	501,037	440,779	851,946	102,277	35,536	57,819	78,844	115,032	2,183,270
February:	Month	14,616,862	11,806,190	23,853,375	2,838,339	1,008,562	1,617,087	2,420,224	3,294,000	61,460,139
	Daily average	504,030	407,110	822,703	97,891	34,778	55,762	83,456	113,586	2,119,315
Total 12 months		187,561,365	172,791,244	339,900,485	38,192,273	14,759,138	22,149,368	33,543,940	41,187,000	850,084,813
Daily average		512,463	472,107	928,690	104,350	40,326	60,517	91,650	112,533	2,322,636

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Read by Oil Men Everywhere

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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200 AMP. General Electric Arc Welder; portable; 220 V. 3 ph. 60 cy. Complete. Like new. $350. 7x6 Ingersoll-Rand Type ER-1 Air Compressor. Like new. $225. 8x6 Ingersoll-Rand Type ER-1 Air Compressor. Like new. $250. 36"x18' Fifield Screw Cutting Lathe. $650. Also large stock of lathes, shapers, pipe machines, bolt threaders, etc. Send for our list. Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West Second St., Cincinnati, Ohio.

NO. 2 NATIONAL Drilling Machine and tools. Complete. In good condition. For Sale or Trade. Cheap. Write or phone No. 6, T. L. Horner, Box 223, Barnsdall, Okla.

CROSS CRACKING UNIT
600-Bbl., COMPLETE, A-1 CONDITION
PRICE $3,500 FOR QUICK SALE
INSPECT AT MILLER REFY. HUMBOLDT, KANS.
FOR DETAILS AND ENGINEERS' REPORT
WRITE
BROWN-STRAUSS CORPORATION
KANSAS CITY, MISSOURI
Mail P. O. Box 1109 L. D. Phone 172

EQUIPMENT WANTED

WANTED, immediately, used Brunton transit and field aneroid. Write prices and description. Fred Waldron, Fargo, North Dakota.

FOR SALE—MAPS

FREE TEXAS MAP
Just compiled from Government and other sources. Shows oil fields and geology. Free copy on request. Moss & Company, 1108 Santa Fe Building, Dallas, Texas.

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REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER, ALLWINE & ROMMEL
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Washington, D. C.

INCORPORATIONS

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

SITUATIONS WANTED

REFINERY Superintendent and Chemist. Eight years' complete plant experience with major companies. Technical training. Available after May 15. Address Box F-162, The Oil and Gas Journal, Tulsa, Okla.

ENGINEER — Five years, industrial plant; past seven years with engineering contracting organization oil refining-equipment. Experience covers design, operation, cracking units, pipe stills, vacuum equipment, auxiliaries. Desire connection with contractor, refiner or equipment sales. Prefer East. Address Box F-160, The Oil and Gas Journal, Tulsa, Okla.

GRADUATE Chemical and registered civil engineer, seven years' refinery technical experience which includes laboratory research and development. Have designed, built and operated 1,200-lb. vacuum lube unit, also 1,500-lb. skimming and vapor phase cracking unit. Thoroughly familiar with topping, skimming and cracking, both liquid and vapor phase. Lube manufacturer by use of steam and wet vacuum. Gas engineer in Natural Gasoline Industry. Can furnish best of references. At present, located in California but at liberty to travel. Address Box F-152, The Oil and Gas Journal, Tulsa, Okla.

OIL CHEMIST, 24, single, B. S. in Chem. Eng. from Eastern Univ. Experienced in analytical oil chemistry, crude assay and contacting clays. Desires position in process department. Location immaterial, salary secondary. Address Box F-170, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

FOR REFINERY, Delaware Corp., Officers, Office force, Refinery men, preference those investing, reference required. Pure Pennsylvania Oil Co., care 509 S. Madison, Enid, Okla.

DETECTIVE AGENCY

DETECTIVE SERVICE—Confidential investigations, adjustments. Detectives wanted everywhere, Men, Women. Experienced or not. THE DETECTIVE. 411 Andrews Bldg., Dallas, Tex.

BUSINESS OPPORTUNITIES

OIL located before drilling. Geophysical method. Toggodometer Instrument; take p..y in oil. No oil, no pay, except traveling and testing expenses. 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

WANTED—Brokers and salesmen in all the Cities in U. S. and Canada to cooperate with me in selling producing and nonproducing royalties at the right prices, located in the hot areas in Oklahoma, Kansas and Texas. Chances for big profits; send today for lists and maps. James R. Haynes, Grantville, Kansas.

PIPE LINE AND PRODUCTION
We check shortage. Make necessary investigations. Thirty years' experience. Consultation confidential. Charges reasonable. Box F-171, The Oil and Gas Journal, Tulsa, Okla.

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JAMES E. MILLER CO. will co-operate with responsible firms or parties seeking aid in financing projects of higher order. 207½ East Third Street, Tulsa, Okla.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security, Electric Bldg., Denver, Colo.

JOHN MORRIS, 3608 WARREN ST., PHILADELPHIA, Pa., invites full facts first letter from capable parties planning negotiation of reasonable capital support for undertakings distinctly of higher order. Use registered mail, safeguard data.

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CAPITAL—Our distributing facilities are broad enough to handle all types of issues, both large and small, for those desiring capital through the sale of securities.
BROOKWORTH,
110 East 42d St., New York City

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LEASE & ROYALTY—Ector, Brewster, Jim Hogg and other counties. Texas land, 1 acre to 25,000, oil and mineral possibilities. Anderson, 709 Linz Bldg., Dallas, Tex.

FOR SALE—43,900-acre ranch. Presidio County, Texas, at $3.50 per acre patented basis. Address: A. J. Bogel, Box "N," Marfa, Texas.

IMPROVED SOUTH TEXAS
RANCH WITH OIL PRODUCTION
FOR SALE—$7.25 per acre. Facing concrete highway, 40,000 acres including one-half royalty. 75 miles fencing, 20 water wells, windmills and concrete tanks. Four sets of improvements, 2,000 acres cultivation, 80% rich agricultural land. About $20,000 per annum royalty payments. Tremendous gas supply, unlimited oil possibilities. Oil and Gas line through ranch. Wild game in abundance. Will also sell livestock. Terms. Address Box F-164, The Oil and Gas Journal, Tulsa, Okla.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

ROYALTIES—PRODUCTION

MONTHLY INCOME-PAYING Royalties under Oklahoma City and Seminole Wilcox Sand wells offered. W. E. Cook, 342 Court Arcade, Tulsa, Oklahoma.

ROYALTIES in the territory of coming big development in Kansas, Stafford, Barton, Ellsworth, Kingman and Stevens Counties, core drilled. Also producing royalties. Special service to brokers. Send for list. James R. Haynes, Grantville, Kans.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Okla.

I HAVE SEMINOLE ROYALTY in one-quarter acre deeds to yield 50 per cent on investment. John L. Dickson, Box 1113, Tulsa, Okla.

UNUSUAL OPPORTUNITIES
FOR ROYALTY INVESTORS
AND DISTRIBUTORS

THE MERCURY COMPANY
Philtower Building, Tulsa, Oklahoma

JAMES B. McANALLY

Speculative & Investment Royalties

Hunt Bldg., Tulsa, Oklahoma

A service devoted exclusively to supplying opportunities to live wire brokers and dealers.

Information to Investors with address of nearest dealer on request.

CHEAP ROYALTIES—Shell-Humble midwest Blocks, Kans., Okla., Texas. Big list, agents wanted. Harry Haynes, Grantville, Kans.

ROYALTY and leases Goliad County, Texas, close up to Humble location on huge core drilled block. James R. Haynes, Grantville, Kansas.

PRODUCING OIL ROYALTIES
Henry S. Severson, Court Arcade,
P.O. Box 1341, Tulsa, Okla.

LEASES—PRODUCTION

A FEW forty-acre tracts in N. W. and a few in S. W. Lea at depression prices. Under Long Term State Leases belonging to a client who needs money, write us. Staplin & Staplin, Santa Fe, N. M.

400-ACRE lease in Greenwood Co., Kansas. Geology shows structure. Will assign three-fourths for a well. Address Box 204, Colony, Kansas.

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Changes in copy must be in our office 10 days in advance of publication date.

Mail your advertisement to the Largest Classified Section in the Oil Industry.

THE OIL AND GAS JOURNAL

TULSA OKLAHOMA

LEASES—PRODUCTION

8,000 ACRES in solid block in S.E. Texas. Will turn on drilling contract or as commercial lease. W. R. Miller, 1216 Hurley Ave., Fort Worth, Texas.

WILL SELL 40 acres of my 80-acre lease close to deep test drilling in S.E. Oklahoma. Address Edythe Burnham, 312 Walnut St., Texarkana, Ark.

TEXAS PANHANDLE Gas Production and Royalties is my Hobby—get my prices. Wire or write. E. B. Reeves, Box 13, Alanreed, Gray County, Texas.

FOR SALE

Several thousand acres of mineral rights, covering one-half of the oil and minerals on the land. For sale on the basis of $500 per quarter, for one-half of the mineral rights thereon. They are perpetual and participating. Located in Hodgeman, Trego, Ford, Kearney, Seward and Haskell Counties, Kansas. Also have several commercial blocks on good structure, and several drilling blocks. Brokers and Promoters do not answer. Write P. O. Box 471, Dodge City, Kansas, for further information.

10 TO 250 ACRES, two miles from production, no dry holes between, near new well starting on Sun Company lease. E. Croft, Proctor, Texas.

FOR LEASE—Oil and Gas. W half, NW of 23-24-5; NW of 22-24-5, Garfield County, Oklahoma. Owner, A. C. Russel, Hunter, Okla.

LEASE 40 acres N. W. quarter, Section 15-17-29 Eddy County, N. M. A. R. Hewitt, 1500 Upson Ave., El Paso, Texas.

FOR SALE—ATTRACTIVE LEASES
Five hundred acres in shallow Medina County Pool. Wells better than 200 bbls. have been drilled in field at 500 feet and less. Berea sand—long life. Corning grade oil now $1.05 and oil advancing in price. No better business to invest in. Producing wells as close as 35 feet apart. Inquire immediately. James Tallon, Cottage St., Ashland, Ohio.

CANCELLED Government permits refiled, or new ones taken, under reopening order of Apr. 4, 1932, anywhere in Northern New Mexico. State Leases renewed, or new ones taken, or any matter affecting same looked after promptly. Staplin & Staplin, Santa Fe, N. M.

NEW MEXICO Oil Leases, Lands and Royalties. Free State Map and information. Roy G. Barton, Clovis, New Mex.

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Service In East Texas

Bridgeport offers exceptional service in the East Texas field, with branch stores at Kilgore and Camps, with a complete rental service in Rotary and Cable Tools. Also bargains in used tools, line pipe, casing and drill pipe. Call Bridgeport **first,** COLLECT, before you buy or rent. We can save you money.

A Few Real Bargains

2 New Model E, 110 Volt, 1½ K.W., 1500 Watt, Kohler Light Plants (extra parts available), Priced F.O.B. Wichita, Kans., at only .....$375.00 each

Complete Used Rotary

Consisting of 6" Draw Works, 27½" table, 18" pumps, 125 H.P. Boilers, 6⅝" Drill Pipe. Located at our Pampa, Texas, Branch. Terms can be arranged on an attractive price.

Pumping Engines

3—25 H.P. 4-cycle Superior Gas Engines (Used), Each $250.00
1—30 H.P. Reed Gas Engine (Used) $350.00
All with force feed lubricators, and reversible clutches. Located at Wichita, Kans.

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(New Material)

58—2"-11½" thread, plain Tubing Couplings.
70—2½"-11½" thread, plain Tubing Couplings.
48—3"-11½" thread, plain Tubing Couplings.
60—6⅝"-10 thread, A.P.I. Casing Couplings.
All at great reductions in price. Located at Wichita, Kans.

Bridgeport Straight Lift Pumping Hanger

For regular or underslung beam. Ample strength to lift 150,000 lbs. Bearings best grade bronze; bearing boxes with large oil reservoirs; polish rod clamp wedge type, applied without tools. Easily removed. Gripping power increases with rod load. These pumping hangers practically wipe out danger of bent polish rod or smashed hanger. Price, Regular Beam $85.00; Underslung Beam, $55.00. Special quantity discounts.

WE WILL BUY

Complete or separate Rotary Units, large Boilers, line pipe, casing and drill pipe. Write or wire Wichita office.

BRIDGEPORT

MACHINE COMPANY

Wichita, Kansas

BRANCHES IN ALL ACTIVE MID-CONTINENT OIL FIELDS

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